THE ECONOMIC BENEFITS OF VISITOR SPENDING FOR LOCAL COMMUNITIES IN GREAT BRITAIN:

AN EXAMINATION OF THE DEVELOPMENT, APPLICATION AND MAIN FINDINGS OF PROPORTIONAL MULTIPLIER ANALYSIS

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ABSTRACT

Since the Development of Tourism Act in 1969 there has been increasing interest in the quantification of the economic benefits provided to host communities through the spending of tourists.

The aim of this thesis is to evaluate the most commonly adopted method used to quantify these economic benefits. That method is proportional multiplier analysis.

The evaluation of proportional multiplier focuses on two complementary aspects. The first is a consideration of the strengths and weaknesses of the methodology. In particular, the thesis examines the balance achieved between theoretical refinement and practical application. The second is an evaluation of the extent to which the results of the studies have increased, or put on a sounder footing, the understanding of the economic impacts of tourism which arise through visitor spending.

The thesis is based on eight studies which were undertaken by the author over the period 1976 to 1986 inclusive.

The objective of the public sector bodies which commissioned the studies was to obtain information which could be used to establish the credentials of tourism as a major economic activity and to provide information which could guide the formulation of policy. The conclusion reached in this thesis is that, despite its limitations, proportional multiplier analysis has proved to be a flexible and robust application of an economic concept. It is a method of analysis which has provided, and is still providing, useful and reliable information.

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AKNOWLEDGEMENTS

This thesis is based on studies conducted for a number of public sector agencies. I would like to thank the English Tourist Board, the Scottish Tourist Board and Merseyside County Council for permission to present the results of these studies in this thesis.

Within the organisations for which I conducted the studies I would like to thank Mr. I. Rickson (English Tourist Board), Mr. G. Lee and Mr. T. Costley (Scottish Tourist Board) and Mrs. P. Wilsher (Merseyside Tourism) for their help and support. In addition I would like to thank Mr. R. Green (Lothian Regional Council) for offering me the opportunity to conduct the first of the studies in 1976 (Edinburgh and the Edinburgh Festival).

In the course of the studies I have benefited considerably from the help and advice of the members and staff of the Tourism and Recreation Research Unit of Edinburgh University. I would like to thank Miss C. Borsey, Mrs. V Eachus and, in particular, Mr. S. Dowers for the analysis they conducted on my behalf in the studies I undertook between 1976 and 1981 inclusive. In addition I would like to thank Dr. M. Baxter, Mr. B. Duffield, and Dr. S. Walker who contributed greatly to my understanding of survey research.

This thesis has greatly benefited from the advice I have received. Therefore could I extend my thanks to Professor D. I. Mackay and Dr. P. Lavery for their comments on the first draft of the thesis. In this context, however, my main thank you goes to Professor J. T. Coppock who has been a continual source of encouragement and who has taken a great deal of time and effort reading the various drafts of this thesis. The comments he provided me with have proved invaluable and have improved the thesis considerably.

Finally, neither this thesis nor the studies on which it was based would have been completed without the support and considerable help provided by my wife who has acted as interviewer, secretary, office manager and confidant. To Helen, therefore, I can only say thank you (and the flowers arrive tomorrow).

DECLARATION

This thesis has been composed by myself and the work in it is my own.

However, in four out of the eight studies on which the thesis is based, the computer-based analyses was undertaken, under my direction, at the Tourism and Recreation Research Unit of Edinburgh University by C. Borsey (the Edinburgh and Edinburgh Festival studies), V. Eachus (the national parks study) and S. Dowers (the above studies plus the study of Scotland).

The visitor survey of Exmoor was conducted by the Tourism and Recreation Research Unit. I was responsible for the management of this study.

The visitor spending data for the Brighton and Hove, Winchester and Bournemouth and South East Dorset studies were provided by the English Tourist Board.

The visitor survey in the Merseyside study was undertaken and analysed, under my direction, by the British Market Research Bureau.

The methodology and studies covered in this thesis have, to varying degrees, been published. The publications are recorded under my name in the reference section of this thesis.

CHAPTER ONE

INTRODUCTION

INTRODUCTION

There has been increasing interest in tourism as a subject of academic study and as an element of public sector policy over the last 20 years. This increasing interest is evident in the level and quality of statistics about tourism as well as in the publication of articles and books on tourism. In addition, and importantly, there has been increasing awareness in the public sector of the contribution tourism can and does make to the national and local economies of Great Britain as witnessed by "Action for Jobs" (Department of Employment, 1986).

Over the last 20 years much effort has gone into specifying and prioritising the issues and problems in the development, management and promotion of tourism. This thesis is concerned with one element of that effort: the identification and quantification of the relationship between tourism and the local economies which act as host destinations for tourists. This thesis demonstrates how a technique, multiplier analysis, drawn from the main body of economics has been adapted and applied in order to aid the understanding of the economic impact of tourism.

THE IMPACTS OF TOURISM

The economic impact of tourism is, if the weight of research effort is the criterion for ranking, one of the most important considerations for the public sector. However, it is not the only impact or relationship that exists between tourism and the community in which tourism is set. Other relationships arise because of the nature of tourism. Tourism has been defined as:

> "the sum of the phenomena and relationships arising from the travel and stay of non-residents in so far as they do not lead to permanent residence and are not connected with any economic activity" (Hunziker and Krapf, in Burkhart and Medlik, 1974, p40).

Implicit in this definition is the factor which distinguishes tourism from other economic activities. In tourism the consumer goes to the product and not the other way around. As a result tourism will have an impact on the economy, on the natural resources, on the man-made resources and on the socio-cultural resources of the areas which tourists visit.

The Economic Impacts

To 'host' areas tourism is generally seen as a means of increasing economic welfare. Tourism is seen as an export industry, either attracting money from other countries through the spending of international tourists or by re-distributing money between regions within a nation through the spending of domestic tourists. Generally, the economic impacts of tourism have been seen in terms of the benefits provided by

visitor spending, although there are negative impacts.

The positive impacts include the inflow of visitor spending, the jobs required to provide the goods and services demanded by visitors, the income created through profits and wages and, finally, the external economies of increased viability of businesses and a more varied and better choice of consumer goods and services. The negative impacts include the public sector costs of providing services and infrastructure, the diversion of resources and the opportunity cost of jobs and income foregone through developing tourism rather than an alternative economic activity, the over-dependence on tourism that may result from trying to protect the 'attraction' of the area for tourists and the external dis-economies of congestion, increased prices and so on.

The Social Impacts

The social impacts are less tangible and more difficult to measure than the economic ones. The social impacts arise because of the differences in attitudes, perceptions, values and expectations of tourists and the host population. The most obvious social impacts are also economic in that tourism creates jobs for local people, and for people coming into the area, and increases local incomes. These economic impacts have social implications because they create new working relationships, create new forms of social stratification and change social institutions and accompanying beliefs, attitudes and values. These social impacts can be viewed as positive or negative.

Viewed in a positive light these impacts provide for occupational pluralism, the improvement of material conditions, the preservation of local customs and

crafts and the development of new skills and social contacts. Viewed in a negative light these social impacts disrupt and question traditional value systems, result in staged authenticity and create dissatisfaction through the demonstration effect of tourist affluence and alternative life-styles. Thus a major negative aspect of tourism is often considered to be the increase in crime.

The Environmental Impacts

The environmental impacts of tourism vary from one area to another. They depend on, for example, the physical characteristics of the area and on the type of tourist and scale of tourism. However, the environmental impacts are extremely important because the physical environment, be it natural or man-made, is generally a major part of the attraction for tourists. As with the economic and the social impacts there are positive and negative impacts on the environment.

Some of the positive impacts on the environment are the development of infrastructure, environmental improvement, the conservation of the heritage and control of pollution. On the negative side there are the noise and litter created by visitors, crowding and congestion, damage to fragile ecosystems, increased urbanisation and, finally, loss of visual amenity.

Economic Impact: the Prime Focus of Attention

As demonstrated above tourism has positive and negative impacts in economic, social and environmental terms. Thus the study of the impacts of tourism is not a single subject of study but incorporates many different fields of study: economics, sociology, anthropology, environmental science, ecology and so on.

However, for the public sector the prime focus of attention has been on the economics of tourism and, in particular, the economic benefits offered by tourism.

The first reason for this was simple advocacy. With the introduction of tourist boards following the 1969 Development of Tourism Act there was a need to demonstrate that tourism was a substantial and worthwhile economic activity.

The second reason was that the overall focus of planning is to increase economic benefits or limit economic costs. As Sessa has commented, as a:

> "fundamental economic activity, tourism must be included in the economic policy of the nation....[and therefore]....tourism policy will, perforce, always be economic....[and consequently]....tourism policy must be understood as economic policy" (1983, pp157-158).

The public sector needed firmer and more objective foundations for their activities in respect of the economic benefits offered by tourism. Initially, this consideration of the economic benefits was geared to the international and national economic impact of tourism and later to the more local economic impact of tourism with which this thesis is concerned. The reasons for increasing interest in the economic benefits of tourism were that tourism had been shown, as detailed in the next two sections, to involve substantial movements of money as a result of visitor spending and to be an 'industry' with a record of considerable growth.

THE INTERNATIONAL ECONOMIC IMPORTANCE OF TOURISM

In a report on "Tourism and International Trade" (English Tourist Board, 1976) it was shown that the value of international tourism increased by 129 per cent from $7.8 billion in 1962 to $17.9 billion in 1970. More recently compiled figures by the International Monetary Fund (1977, 1981 and 1982) would suggest that in 1970 world receipts from tourism were $18.5 billion and that these have continued to grow reaching $97.6 billion in 1980: a growth of 428 per cent at current values. When converted into Standard Drawing Rights the figures for 1970 and 1980 are 18.5 billion and 75.0 billion, indicating a rise in receipts of 305 per cent at constant values.

Between 1970 and 1980 tourism receipts ("travel" in IMF terms) fell from about 5.0 per cent to 4.0 per cent of the value of exports of goods and services (Table 1.1). However the proportion of world trade accounted for by tourism receipts fluctuated between a peak of 5.4 per cent in 1972 and 4.0 per cent in 1974.

A possible reason for the reduction can be seen in Table 1.1 which presents the value of world trade by commodity and service in 1970 and 1980. The proportional share of all items was smaller in 1980 than in 1970 except for fuels, chemicals and investment income which had a larger share and engineering products and road vehicles which maintained their share. It is the substantial rise of 11 percentage points by fuel which is the major change, however, and this would affect tourism's proportion adversely both by taking up a larger share and by affecting travel costs and the growth in affluence on which the substantial rise in tourism in the 1960's was based.

TABLE 1.1: The Proportion of World Exports Accounted for by Individual Commodities and Services, 1970 and 1980.

Type of Export	Proportion of World Exports (%)	
	1970	1980
Food	11	9
Raw Materials	5	3
Ores and Minerals	3	2
Fuels	7	18
Non-Ferrous Metals	3	2
Iron and Steel	4	3
Chemicals	5	6
Engineering Products	18	18
Road Motor Vehicles	5	5
Textiles and Clothing	5	4
Other Manufacturing	9	7
Transportation	6	5
TOURISM	**5**	**4**
Investment Income	7	9
Other Services and Transfers	7	6
Total	100	100

Source: GATT, International Trade
International Monetary Fund, International Financial Yearbook.

The relative importance of tourism can be shown by comparing receipts from tourism with other traded goods and services in the world economy. As shown in Table 1.1, tourism was greater in value than ores and minerals, non-ferrous metals and iron and steel in 1970. By 1980 tourism had also overtaken raw materials and textiles and clothing in world exports. It is important to note that tourism receipts do not include international passenger fares which are, along with freight, charters and port disbursements, included under transportation.

THE IMPORTANCE OF TOURISM TO THE UNITED KINGDOM

United Kingdom receipts from international tourism rose from £500 million in 1971 to £2,961 million in 1980, a rise of 492 per cent at current values. By 1980 the United Kingdom accounted for 7 per cent of world tourism receipts, and was ranked fifth of the main recipients of tourism expenditure.

Between 1971 and 1980 receipts from tourism rose from 3 per cent of United Kingdom exports of goods and services to 4 per cent (Table 1.2). This might not seem a large proportion but it must be remembered that the United Kingdom exports a relatively high proportion of the goods and services it produces. In fact, closer examination of Table 1.2 reveals that tourism was, in 1980, ninth in value in terms of export earnings. It was larger than 6 of the other 9 service sector export groupings listed and, of those three which were greater, transport contained a large proportion of fare payments to United Kingdom carriers by tourists.

TABLE 1.2: United Kingdom Visible and Invisible Trade, 1971 and 1980.

Type of Trade	Value of Trade (£m)	
	1971	1980
Visible Trade:		
Food, beverages and tobacco	569	3241
Basic materials	279	1467
Mineral Fuels and Lubricants	239	6418
Semi-manufactured goods	2958	14152
Finished manufactured goods	4734	20734
Other goods	264	1384
Invisible Trade:		
Transport	1969	6026
Insurance	244	447
Banking	59	383
Commodity trading	70	180
Merchanting of goods	30	160
Brokerage	57	370
Solicitors	11	61
TOURISM	**500**	**2961**
Interest, profit, dividends	1486	8289
Other services	1271	6940

Source: Central Statistical Office, United Kingdom Balance of Payments.

However, the comparison portrayed in Table 1.2 with the exports of goods is misleading due to the high level of aggregation. While the size of exports of, and the large growth in value of, mineral fuels and lubricants is not surprising given North Sea oil and the major price rises of crude oil it is perhaps more revealing to compare the receipts from tourism in 1980 with the receipts from textile exports at £1,363 million, iron and steel exports at £983 million, passenger motor vehicles at £3,158 million and alcoholic beverages at £898 million.

Receipts from the exports of goods and services together with the debits from imports form the current account of the balance of payments. Tourism has, in the past, acted as a stabilising element in world trade (O'Hagan, 1975). Between 1971 and 1980 this was also the case for the United Kingdom. In each of the 10 years tourism had a positive balance of payments with the peak surplus being in 1977 and totalling £1,166 million (Table 1.3). Thus while visible trade (the export and import of goods) was in deficit for 8 out of the 10 years, tourism, along with financial services and interest, profit and dividends, were consistently in credit.

PROVIDING A SUB-NATIONAL PERSPECTIVE

The previous two sections have concentrated on the importance of international tourism in the context of the international and national economy. But tourism has a significant impact on the economies of regions within the United Kingdom. In addition to the impact of international tourism there is also the impact of domestic tourism which in 1980, for example, resulted

TABLE 1.3: United Kingdom Balance of Payments, 1971-1980.

Type of Trade	Balance of Payments (£m)			
	1971	1974	1977	1980
Visible Trade (FOB)	+190	-5351	-2284	+1185
Financial Services	+471	+ 785	+1391	+1601
Transport	- 7	- 26	+ 302	+ 530
TOURISM	**+ 58**	**+ 195**	**+1166**	**+ 223**
Interest, profit, dividends	+502	+1415	+ 118	- 273
Other services	- 90	- 291	- 715	- 401
TOTAL	+1124	-3273	- 22	+2865

Source: Central Statistical Office, United Kingdom Balance of Payments.

in £3,025 million being spent in Great Britain by residents of Great Britain.

These substantial levels of international and national visitor spending and the associated impacts on economic activity, resident incomes and employment increasingly became the focus of attention during the 1970s as the public sector sought to define and measure the impact of tourism on sub-national economies in order to support and guide particular policy decisions. Tourism was viewed as an important possibility for economic development and regeneration. In the 1970s this potential was seen in terms of rural areas. In the 1980s the potential for urban areas has become increasingly prominent.

The Problem in Providing a Local Perspective

Consideration of the local economic impact of tourism has been complicated by the nature of tourism and the tourism 'market-place'. The market-place is where demand and supply come together. Tourism demand is characterised by people travelling and spending money on the goods and services they require. The problem is that tourists spend their money on a range of items. The items demanded and the amount devoted (both absolutely and proportionately) to them varies depending on the area visited, the duration of the visit, the purpose of the visit and so on. Thus the supply of tourist services is provided by a range of different businesses which will have different levels of significance within the tourism market-place. For many businesses in which tourists spend their money sales to visitors do not comprise the major part of their turnover. However, for the people who own or manage these businesses it is difficult to distinguish between visitors and residents and therefore to

allocate their turnover between visitors and residents.

Thus, while tourist spending represents a transfer of resources from the tourists' normal place of residence to the place(s) visited, it is difficult, in simple terms, to measure the level of visitor spending let alone the impact on an ill-defined supply sector. The difficulty, however, did not dissuade people from commissioning studies which were seen as extremely important for the reasons discussed below.

The Context of the Thesis

This thesis is based on studies commissioned by various public sector bodies within England and Scotland over the period 1976 to 1986 inclusive. The studies, in the order in which they were undertaken by the author of this thesis, were of the economic impact of tourism in Edinburgh (1977a), the Edinburgh Festivals (1977b), the National Parks of England and Wales (TRRU, 1981), Scotland (1987), Brighton and Hove (1983), Winchester (1984a), Bournemouth and South East Dorset (1985) and Merseyside (1986a and 1986b). These studies were commissioned and designed to overcome the problem of measurement and were undertaken to fill the information gap on the local economic significance of tourism.

The problem for the public sector, as identified above, was that tourism was a form of consumption whereas official statistics were/are based on defining economic activity by type of production. What was needed was a means by which to provide advocacy and planning data for sub-national areas.

In an advocacy context the studies were required to give tourism a credibility both with the general public and within the tourist 'industry'. Thus the studies

were commissioned to inform public officials of the benefits of investing in tourism development and promotion. In addition, the studies were commissioned to demonstrate to the general public the importance of tourism to the economic health of the local community thereby, hopefully (for those wishing to promote tourism), encouraging the local community to support rather than resist further development and promotion.

In the planning context the studies were commissioned to aid in the more efficient use of public funds. Thus the studies were commissioned to aid the public sector in developing policies that best promoted the economic welfare of the community. This could be done by using the results to assess the likely implications of different options or even to specify the potential options.

THE THESIS

The reason for the studies on which this thesis is based was the estimation of the economic benefits provided to sub-national areas through visitor spending. While this thesis details the ways in which understanding of the economic implications of tourism has been improved as a result of the studies conducted (the results of the individual studies are contained in the appendices to this thesis) the emphasis is on the methodology by which the results were obtained.

The Focus of the Thesis

The reason for this emphasis is that the methodology should be of value to all who seek to assess the real contribution of visitor spending to the economic

welfare of the communities in which tourists spend their money. However, outside the methodology sections of the research reports, which are generally quite brief and specific to the study in question, only a limited number of reviews of the methodology, for example "Tourism Multipliers: The State of the Art" (Archer, 1977a), have been written. Unfortunately, for people seeking guidance on the methodology, these reviews generally only cover the specification of the equations on which the analyses were based and the types of result produced: the exception is a review by the author of this thesis (Vaughan, 1984c). The reviews do not cover the equally important aspect of the methods by which data used were collected and, by implication, the quality of the data on which the results were based. A major aim of this thesis, therefore, is to examine and evaluate the translation of a concept into empirical work and the balance necessary between theoretical refinement and practical application.

The Structure of the Thesis

This thesis has a three part structure, excluding this introductory chapter, plus a number of appendices.

Part One consists of Chapters Two and Three. These chapters form an overview of the alternative methods of measuring economic impact and the development of proportional multiplier analysis in Great Britain.

Chapter Two consists of a background review of the five main methods of estimating the economic benefits of tourism. For each method consideration is given to the basis of the analysis, the algebraic formulation, the problems in application and the studies of tourism which have adopted the approach. The chapter highlights

the reasons why proportional multiplier analysis was chosen in preference to the other four methods.

Chapter Three identifies the main developments in proportional multiplier analysis. It demonstrates that the method has been substantially modified and become increasingly concerned with analysing the direct effects with consideration of the multiplier effect assuming less importance. Examples of what this means in practice are left to later chapters.

Part Two consists of Chapters Four to Seven inclusive. These chapters consider in detail the main elements in proportional multiplier analysis. In particular they consider the advances to the methodology which have taken place during the studies on which this thesis is based. It is important to note, however, in the context of the advancement of the methodology, that the studies were heavily influenced by the remits of the sponsors. Each of the studies was commissioned by a public sector agency which had a specific set of objectives when commissioning the study. Thus in each individual study there was only limited scope to develop the methodology. Nonetheless, within that constraint, the improvements in the methodology overall represent a progressive enlargement of the application of multiplier analysis to produce more informative and more reliable results.

Chapter Four examines the main elements in providing an analysis of visitor spending. The chapter examines the modelling of visitor spending and the issues that require resolution in survey and questionnaire design. Thus, for example, in survey design there are problems of bias as a result of the location of the interview and of the timing of the interviews. Similarly in questionnaire design there are problems of, for

example, balancing quality of data against claims on the time of the respondent. The chapter also identifies problems that may occur in the analysis and interpretation of the data. The chapter concludes with examples of the results of a survey of visitor spending.

Chapter Five evaluates the equations, the data collection and data adjustment procedures involved in analysing the circular flow of money resulting from visitor spending. Thus the chapter considers the measurement of the purchasing of goods and services from local businesses and the payment of income to local residents as a result of visitors spending money. The chapter examines survey design, in particular the problem of obtaining a representative sample given the skewed distribution of the major components of economic impact between the businesses which comprise the 'tourist industry' and the problems of identifying where the tourist industry begins and ends. The chapter also considers business questionnaires and the practical problems involved in obtaining commercially sensitive information. In addition it considers the problem that most of the information has to be extracted from business accounts which have been prepared for a certain purpose and need to be re-interpreted. The chapter concludes with an example of the results obtained from an analysis of the purchasing and income data obtained from a business survey.

Chapter Six continues the consideration of surveys of businesses. In this chapter, however, the emphasis is on obtaining and analysing data on the jobs supported by tourism. The chapter examines why it has been necessary to conduct special surveys in order to estimate the size and composition of the tourist workforce given the existence of the Census of

Employment. The chapter details and evaluates the proportional multiplier method of estimating the workforce and provides examples of the results obtained for different types of business.

Chapter Seven is the final chapter in Part Two of this thesis. Chapters Four to Six inclusive examined in detail each of the individual elements which make up a study of the economic benefits provided by visitor spending to the communities in which the money is spent. This final chapter of Part Two considers the way in which these elements are combined. In addition the chapter considers the place of an economic impact study within the context of the overall planning needs of a local authority and the policy implications of the results.

Part Three consists of Chapters Eight, Nine and Ten. These chapters explore the main lessons to be gained from the studies in respect of the strengths and the weaknesses of the methodology and the contribution to the understanding of the economic benefits provided by visitor spending. Thus they provide an evaluation of both the results and the technique to date and consider future developments.

Chapter Eight evaluates the main lessons learnt about the methodology: its strengths and weaknesses. In particular, it assesses the progressive developments that have taken place in the course of the studies on which this thesis is based. Thus, for example, it appraises the data collection and the assumptions behind the analysis and assesses whether the technique has successfully balanced theoretical refinement with practical application.

Chapter Nine illustrates the main results which have emerged from studies of the economic benefits of tourism. The chapter highlights how the results, and in particular the advances made during the studies on which this thesis is based, have increased understanding of tourism in different types and sizes of area, in relation to the potential contribution of tourism to local economies vis-a-vis the contribution of other economic activities and finally, how the benefits of tourism are distributed through the community.

Chapter Ten is the final chapter of this thesis. The chapter draws together the conclusions about the proportional multiplier model and its application. The chapter also considers whether such research will be required in the future and the directions such future research could take.

There are eight appendices to this thesis. Appendix One provides details about each of the proportional multiplier studies conducted in Great Britain which can be considered to have been broadly derived from initial work by Archer. The details consist of the objectives of the study, the data used, the nature of the results and the advances made in the course of the study. Appendices Two to Eight inclusive present results from each of the studies on which this thesis was based, with the exception of the Merseyside study the result of which were given in Chapter Seven. The appendices do not, however, present all the results produced during these studies. In addition it should be noted that the results of the studies given in the main text of the thesis are not repeated in the appendices.

PART ONE

THE BACKGROUND

CHAPTER TWO

AN EVALUATION OF THE METHODS OF ESTIMATING THE ECONOMIC BENEFITS OF VISITOR SPENDING

INTRODUCTION

The purpose of this chapter is to review and critically appraise the methods by which researchers have studied the economic benefits of visitor spending. These methods range from surveys of visitor spending to the complex data collection and economic modelling involved in input-output analysis.

Regardless of the complexity, analysis of the economic benefits of visitor spending is based on the construction of economic models. These models represent, in algebraic form, the economic relationships which exist, or are thought to exist. Thus for visitor spending it is the modelling of the level and pattern of that spending. For the more complex measures it is the modelling of the effect of visitor spending on the economy through tracing the circulation of that spending through the economy.

The more complex analyses have been developed for two reasons. Firstly, because of a recognition that any additional financial resources introduced into an area, such as visitor spending, will have a multiplied effect. This multiplied effect is caused by inter-industry transactions and consumer spending. Secondly, the more complex analyses have been developed because visitor spending is not the only measure of economic activity within an economy. The more complex methods, therefore, have been developed to measure:

a) sales or transactions, with the change in the level of business turnover being measured,

b) output, with the change in the level of sales and of inventories being measured,

c) income, with the change in the level of the gross value added (including government revenue) or in disposable income (excluding government revenue) being measured, and

d) employment, with the change in the level of the workforce being measured.

Estimation of the economic effects of visitor spending, therefore, can be simple or complicated depending on the degree to which the different characteristics of different industries and different consumers are recognised and incorporated in the analysis.

There are a number of different approaches which have been used to evaluate the economic benefits of visitor spending, although not all approaches have been adopted in Great Britain. The relative value of each approach is governed by its power of explanation and practicality of application. The five approaches are:

a) the measurement of visitor spending,
b) the economic base method,
c) the orthodox keynesian method,
d) the input-output method, and
e) the proportional multiplier method.

In concentrating on these methods the chapter is selective in that it does not cover some types of study which have been undertaken.

Firstly, the chapter does not cover studies which only provide descriptive indications of the importance of tourism, such as seasonal variations in ice cream sales, or which have involved estimating the impact of tourism on the basis of work conducted elsewhere. An example of the latter type was conducted by TRRU in Chichester (1977). Such studies do not develop the tools of economic analysis significantly although the results may have significant advocacy implications in the areas in which they are undertaken.

Secondly, the chapter does not cover work on social cost benefit analysis. While there are many arguments in favour of social cost benefit analysis the data requirements and assumptions are even more difficult to fulfil than those required in the techniques examined. Such analysis has not been very widely applied in tourism studies. Vanhove has put forward a framework for analysing the costs and benefits (1983) and examples of such an analysis can be found in the work of Bryden (1973) and Wanhill (1980). The main benefit of such an approach is as a broader aid to assessing the impacts of tourism in that it forces, at the very least, a listing of the costs and benefits including those which are unquantifiable.

Thirdly, it excludes a range of other methods which have been used to estimate the impact of tourism on jobs. These include making estimates based upon adjusting the results of the Census of Employment (Kent County Council, 1978) and regression analysis relating, for example, jobs to other variables such as size of establishment (Hughes, 1980). These are, however, considered in Chapter Six.

In examining the five approaches listed earlier the chapter draws on synthesising work by Hewings (1977)

and Isard (1969) covering the basic methods of analysis as well as the tourism-related work referenced in the text. The chapter provides references to the application of the techniques mainly from within the British context, although some examples are cited from elsewhere. The chapter, however, does not provide details of the results of individual studies referenced, although selected details of some of the individual studies are provided in other chapters and in the appendices.

The purpose of the chapter is to highlight the components and the strengths and weaknesses of the different methods which have been adopted. The chapter begins with a consideration of measures by which the different methods of estimating the economic benefits can be evaluated. This is followed by a review of each of the methods. Each review consists of a description of the components of the method, a formal statement of the equations used in the model and an evaluation of the application of the method in a tourism context. The chapter concludes with a consideration of how each of the methods matches upto the measures for evaluation outlined at the beginning of the chapter.

MEASURES BY WHICH TO ASSESS THE METHODS

The study of the economic impact of visitor spending can be either qualitative or quantitative and can be either descriptive or analytical. This thesis is concerned with the quantitative and analytical approaches to assessing the impact of tourism. These approaches are essentially a statement of economic relationships and outcomes. As such they can be broadly considered to be the application of 'models' of the

processes through which tourism provides economic benefits to the host community: a model being "a simplified representation of a more complex process or condition" (Markin, 1974, pp 78-79). Any application of a model relating to visitor spending can be judged in respect of cost effectiveness, specification and sensitivity to different contexts.

Cost Effectiveness

The cost effectiveness of research (research being defined in this context as the application of a model) is dependent on the the objectives set. There are two possible, though not necessarily mutually exclusive, objectives for research aimed at measuring the economic benefits of visitor spending on host communities. These two objectives are advocacy and planning.

The objective of advocacy-based research is to demonstrate that tourism is worthwhile. 'Worthwhile' can be defined in terms of economic, social or other criteria. It is not necessary in advocacy-based research to make comparisons of worthiness either between different types of tourism or between tourism and other economic activities. It is simply necessary to show that tourism achieves, or does not achieve, something which is considered worthwhile, for example jobs. Thus advocacy research can simply state the total number of jobs created by visitor spending without being concerned with providing an analysis of the types of jobs, the way in which the jobs arise or the relative cost per job of the different ways in which jobs could be created or supported.

Planning-based research on the other hand is concerned with comparisons of the use of resources. These comparisons can be macro or micro in scope. In macro

terms planning-based research is concerned with the use of resources in developing tourism as compared with the use of the same level of resources in developing other economic activities. In micro terms planning-based research is concerned with the use of resources in connection with different types of tourism development. Planning-based research, therefore, is likely to be more complex than advocacy-based research. As a result it is also likely to be more costly because additional data, over and above that already available, is likely to be required.

Cost effectiveness, therefore, is dependent on the relationship between the cost of the work and the meeting of the objectives set. The choice is not straightforward because while all favourable work (or unfavourable depending on the point of view it is wished to express) can be quoted in an advocacy context not all work is useful in a planning context because the objectives define and therefore limit the data collected and the subsequent range of results produced. In addition, if the advocacy battle is lost the opportunities for developing and implementing policies are severely constrained.

Specification of the Model and Data

The advocacy battle can be lost in two ways. Firstly, if the results produced do not meet the required levels. For example, if visitor spending does not produce sufficient jobs to gain attention and support from government officials. Alternatively, the advocacy battle could be lost, and the planning measures proposed ill informed, if the model and the data used are badly specified. There are three aspects of the models and data that need to be objectively considered in assessing the relative technical merits of the

alternative approaches: relevance, coverage and accuracy.

The relevance of the models and data collection can be determined by simply answering a number of questions. Do the answers produced cover the economic impact of visitor spending only? Do the answers produced cover the economic impact of visitor spending in the area under consideration? If the answer is yes to these then the results are relevant. If the answer is no then the results can at best be a qualified relevance.

Assessment of coverage is an extension of the assessment of relevance. For visitor spending, for example, it should be ensured that the data used covers all spending in the area by visitors: transport, accommodation, shopping, eating and drinking and entry to attractions/facilities. However, the coverage should not include, for a study of the impact on a host area, anticipatory purchases such as buying a tent while still at home. It is, therefore, important to assess whether all the components of economic impact it is wished to measure are actually being measured.

The final technical criterion relates to accuracy. Accuracy, however, is a difficult term to define as it depends on the context and the degree of 'error' which is acceptable. In general, however, it involves consideration of the answers to a number of questions. Are the data accurate? Does the approach reflect real relationships? Are the results reasonable? Thus consideration of accuracy involves assessing the techniques used to generate the data used, bearing in mind that any assessment of accuracy will tend to be subjective. However, a guide to accuracy is whether the method adopted produces consistent results regardless of the area or researcher.

Community/Area Sensitivity

The approach should be applicable in small geographic areas as the area of interest is likely to be determined by the needs of planners rather than the convenience of the researcher. It needs to be applicable in different areas and at different times. It should be sensitive to different visitor patterns, different compositions of the tourist industry and different prices in different areas. However, as indicated in connection with accuracy, the results should be consistent.

ANALYSIS OF VISITOR SPENDING

Introduction

The economic impact of tourism can be set in motion in a number of ways. Firstly, there is the spending on any initial construction necessary to cater for visitors such as the provision of a hotel. Secondly, there is the recurrent spending of visitors while they are in the area such as spending on accommodation. Finally, there is the induced spending by businesses resulting from the additional business brought about by visitor spending. Such induced spending by businesses can take the form of additional investment in facilities to meet increased demand.

The Components of the Analysis

While there are these three potential ways by which tourism can introduce additional financial resources into an area the most complex to measure, and a major element of this thesis, is recurrent visitor spending.

Study of the recurrent spending has been complicated because the spending occurs in a large number of businesses. Thus there is no single injection of money but a series of injections.

Studies measuring visitor spending involve two parts. The first part is to estimate the total number of visitors to, and or visitor nights/days spent in, the area under consideration. This total can either be per year or for a more limited period. The second part is to determine the average amount spent per visitor, either per day/night or per visit, and, in the more complex studies, the pattern of visitor spending. The overall result is produced by multiplying these two parts together.

Many variations in obtaining data in order to apply this approach exist, as are detailed in Chapter 4. These variations either involve surveys in, or at the boundary of, the host area which is the subject of the study or involve household surveys conducted after the visit to the host area is completed. Regardless of the method of data collection the analysis is generally conducted in terms of different types of visitor (the most common analytical base being the division of visitors according to the type of accommodation used) with the results providing information about the total amount of spending, the average amount spent per day/night/24 hours and the pattern of spending for each type of visitor.

A Formal Description

The tourism industry is a composite of many different activities including both those businesses in which visitors spend money and those businesses which provide goods and services to the businesses in which visitors

spend money. For a study of visitor spending, however, the only concern is with measuring for each type of tourist the amount spent in the businesses which supply travel services, accommodation, meals and drinks, entertainment, and shopping opportunities.

For a given type of tourist, therefore, it is necessary to estimate the pattern and level of spending over a prescribed period, for example 24 hours. Therefore assuming that a tourist will spend money on 5 different types of good or service the daily expenditure can be expressed as:

$$Q_j = K_{j1} + K_{j2} + K_{j3} + K_{j4} + K_{j5} \qquad (1)$$

where:

Q_j = the daily expenditure of the j^{th} type of tourist

and, for example:

K_{j1} = the amount spent by the j^{th} type of tourist on the first type of good or service such as accommodation

As it is necessary to measure the total amount spent by visitors their different number of days in the area can be simply included in the model as shown below:

$$E_j = \sum_{j=1}^{J} N_j Q_j \qquad (2)$$

where:

E_j = the total amount spent by j^{th} type of tourist

N_j = the number of days spent in the area by the j^{th} type of tourist

Q_j = the total expenditure per day by the j^{th} type of tourist

or, more complexely, the total amount spent on each type of good or service can be derived.

An Initial Evaluation of the Measurement of Visitor Spending

There are a great number of examples of surveys of visitor spending both in Great Britain and elsewhere. Thus in Great Britain, for example, there are the annual national surveys of visitors - the British Tourism Survey (NOP), the International Passenger Survey (OPCS) and the Leisure Visits Survey (Taylor Nelson Associates) - each of which collect and analyse data on visitor spending. In addition there are the specific surveys for individual areas many of which formed part of economic impact studies documented later in this chapter in respect of proportional multiplier analysis.

Chapter Four contains a detailed evaluation of such surveys of visitor spending and therefore there is no need to go into detail at this point. Each survey, however, has three basic points on which it can be evaluated: the method by which the data is obtained (face-to-face interviews, self-completed questionnaires), the sampling technique adopted (cordon-based, street/site based and home interviews) and the basis for 'grossing up' to take account of sampling bias or to arrive at an overall total for all types of visitor. Assuming that each of the above considerations can be shown to have been dealt with satisfactorily (dealt with in Chapter Four) how might visitor spending research be evaluated?

Firstly, set out as above, the model suggests a comprehensive set of data requirements which can be met through survey research and which will meet the criteria for relevance, coverage and accuracy, as outlined earlier, depending on the rigour with which the survey has been conducted and on how effectively the problem of recall has been overcome. These are dealt with in Chapter Four.

Secondly, as will become apparent in the consideration of input-output analysis and proportional multiplier analysis later in this chapter, the model of visitor spending can provide inputs for other economic models that assess the economic impact of visitor spending.

Thirdly, the average expenditure data can be used to forecast visitor spending in the near future, given projected tourism visitor patterns and numbers.

Finally, on a more negative note, the model is limited in that it can give a misleading picture of the importance of visitors to the host economy. The reason for this is that the results treat all visitor spending as a benefit to the host area. However, much of the visitor spending will leave the area, as a result of for example government taxation and the import of goods and services, without having a significant effect on the local economy.

THE EXPORT BASE METHOD

Introduction

Application of the export base concept can be traced back to the 1930s but the major development is

generally traced to a series of articles by Alexander (1953-1958). While the export base method has been adopted in the study of a number of activities, for example defence establishments (Greenwood, 1973), it has not been extensively used in respect of tourism. In fact no studies of the impact of tourism have been conducted in Great Britain using this method.

The Components of Export Base Analysis

The export base model is based on the premise that the economic activities of an area can be divided between activities which are considered to be basic and activities which are considered to be non-basic.

Employment and income in the basic sectors are considered to be a function of the demand for the area's exports. Thus the basic sectors supply goods and services to other areas and thereby bring financial resources into the community in which they are based. The basic sectors are, therefore, the economic activities through which an area prospers and grows.

Employment and income in the non-basic sectors are considered to be a function of demand by the basic sectors. Thus the non-basic sectors consist of supporting services and their size is dependent on the level of activity in the basic sector and on the size of the region.

Thus the export base model is based on the premises that:

a) all economic activity is either basic or non-basic,

b) economic growth is determined by the performance of the basic sector,

c) the non-basic sector is dependent on the basic sector, and

d) there is a constant relationship between the size of the basic sector and the size of the non-basic sector.

Given these the export base multiplier is the ratio of the total jobs or income to the basic sector jobs or income. For example, if there are five persons employed in the basic activity and one person employed in the non-basic sector the multiplier would be 1.2 (6 divided by 5). This indicates that for every one job in the basic sector there are an additional 0.2 jobs in the non-basic sector. As this ratio is constant then changes in the level of export activity will lead to predictable changes in non-basic activity.

A Formal Description

Put more formally, the level of employment in an economy is given by:

$$Nt = Nb + Nn \qquad (3)$$

where:

Nt = total employment

Nb = basic employment

Nn = non-basic employment

If r is the ratio of non-basic to total employment then:

$$Nn = rNt \qquad (4)$$

Therefore if there is a change in the demand for goods produced by the basic activities then substituting equation (3) into equation (4) and factoring gives:

$$Nn = \frac{r}{(1 - r)} * Nb \qquad (5)$$

and, if r is assumed to be constant, equation 3 can be re-written in terms of a change in the level of basic employment as:

$$\Delta Nn = \frac{r}{(1 - r)} * \Delta Nb \qquad (6)$$

The export base multiplier is given by:

$$K = \frac{\Delta Nt}{\Delta Nb} \qquad (7)$$

where:

K = the multiplier coefficient

ΔNt = change in total employment

ΔNb = change in basic employment

and therefore from equation (6) we have:

$$K = \frac{\frac{r}{1 - r} * \Delta Nb + \Delta Nb}{\Delta Nb} \qquad (8)$$

which can be re-written as:

$$K = \frac{1}{(1 - r)} \qquad (9)$$

If r is assumed to be 1/6 (0.167), as would be derived from the earlier example, then the multiplier is given by:

$$K = \frac{1}{1 - 0.167} = 1.2 \qquad (10)$$

which is the same as in the earlier example.

An Initial Evaluation of Export Base Methodology

Export base multipliers are generally simple formulations but nevertheless the practical problems in applying them have restricted their use. As was indicated earlier, there have been no tourism impact studies conducted in Great Britain using this type of analysis. Outside Great Britain studies adopting export base methodology are also extremely limited in number but they include a study of employment in the cities and counties of Appalachia (Nathan and

Associates, 1966), and a study of skiers in 2 counties of Colorado (Pickett and Becher, 1972).

The reason for the small number of economic base multiplier studies is that they are subject to both technical and conceptual problems. Thus the methodology has been criticised on the difficulties of identifying the basic and the non-basic industries, the non-inclusion of backward linkages, the adoption of a passive and responsive role for the non-basic sector and, finally, the assumption that the basic:non-basic ratio remains constant over time.

An example of a technical difficulty is the identification of the basic and non-basic components of the economy. The principle techniques by which this has been accomplished are location quotients and minimum requirements. Both techniques assume that economic activity out of proportion to local requirements must be devoted to export sales. 'Out of proportion' in respect of location quotients is defined by whether the proportion of employment of an activity in the area under study is greater than the proportion nationally. If it is then the activity is classified as export based. 'Out of proportion' in respect of minimum requirements is whether the level of employment of an activity in the area under study is greater than the level found in other areas. If it is, then again, the activity is classified as export based. Doubts have been cast over both methods (Hewings, 1977).

For assessing the impact of tourism this difficulty is compounded by the difficulty of identifying the tourist industry. Tourism is not an easily defined economic sector because it does not correspond to any of the classifications used in the Census of Employment, and as detailed in Chapter Six, many tourism-related

activities are not covered by the Census of Employment. The tourist industry includes elements of accommodation, transport, retailing, catering and entertainment. The difficulty exists, therefore, of simply defining the elements of the tourism industry as a precursor to assessing its contribution as a basic sector.

An example of a conceptual difficulty is whether the basic to non-basic ratio will remain constant over time. As regions grow they provide a growing market for the products of the region. This may over time encourage 'local', as opposed to 'export', sales of products and thereby alter the basic to non-basic ratio as the local market becomes more attractive. Thus there is the question of cause and effect in the relationship between basic and non-basic activities which has been raised by a number of writers (Blumenfeld, 1955, and Tiebout, 1956).

THE ORTHODOX KEYNESIAN METHOD

Introduction

The economic base method of estimating economic impact was largely developed by geographers who were interested in the existence of differential spatial multipliers and the cause and effect relationship between basic and non-basic activity. Economists, however, adopted the concept of the multiplier as specified by Keynes (1936). This is not to say that Keynes 'invented' the multiplier as he followed the lead set by Kahn (1931) and it can be traced back to much earlier writing as has been demonstrated by Shackle (1951), Wright (1956) and Boserup (1969).

However, Keynes provided the "tools of analysis which made possible more precise thinking" (Hansen, 1953, p.88).

The orthodox keynesian method has not been used extensively in tourism research in Great Britain. The studies conducted in Great Britain which have adopted this approach are "The Holiday Industry of Devon and Cornwall" (Lewes, 1970) and "Tourism in the South West Region" (Edwards, 1976). In these studies no empirical work was undertaken. The values used in the calculation of the multiplier were estimated on the basis of adjusted national coefficients. Outside Great Britain examples of such work include studies conducted in Hawaii (Renaud, 1972) and in Baltimore (Cwi and Lyall, 1977).

The Components of Traditional Keynesian Analysis

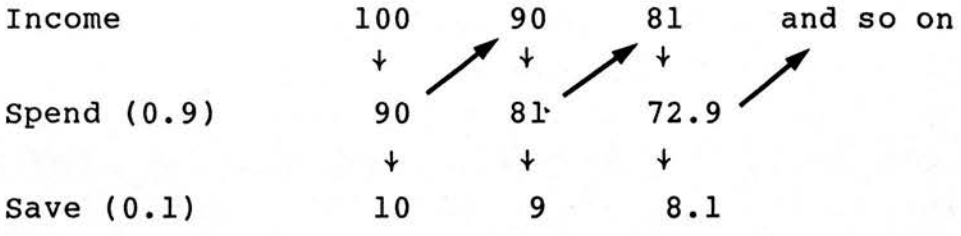
The essence of the keynesian multiplier is that an increase in financial resources (an injection into the circular flow of income) will lead to an increase in income. The key to the size of this increase is the marginal propensity to consume. The marginal propensity to consume is the proportion spent out of an additional unit of income. The multiplier will be large or small according to whether the marginal propensity to consume is large or small.

In simple terms when people receive income they can either spend it or save it. If it is spent then it becomes income to someone else and so on. The more times the original additional income is respent the greater will be the rise in total income. However, this process is limited by the fact that not all income will be respent. Some will 'leak' out of the circular flow of income through, for example, savings. Thus the

total impact is the sum of progressively smaller increments of income which can be represented by:

$$1 + C1 + C2 + C3 \ldots . Cn \qquad (11)$$

which in numerical terms can be represented by:



If this progression of income, with 90 per cent being respent, is continued and the results added together the total impact of an increase in income of £100 would be found to be £1000.

However, it is more convenient to think of the process as:

$$K = \frac{1}{1 - mpc} \qquad (12)$$

where:

mpc = the marginal propensity to consume.

If 0.9 is substituted for mpc and the equation solved then K would be found to equal 10 and multiplying this by the £100 introduced gives the same answer, £1,000.

A Formal Description of the Traditional Keynesian Multiplier in the Regional Context

Keynesian multipliers for a region are derived in the same way as national multipliers. They are derived through a consideration of leakages from the circular flow of income. Thus the general models developed by Archibald (1967), Brown (1967), Steele (1969), Wilson (1968), Greig (1971) and Brownrigg (1971) rely heavily on keynesian macro-economics.

Brown, for example, begins with the expression:

$$Y = C + G - M - Ti \qquad (13)$$

where:

- Y = the change in regional GNP at factor cost
- C = the change in regional consumption spending
- G = the change in government spending on regional value added
- Ti = the change in regional indirect tax payments (net)
- M = the change in regional imports for consumption

(Brown included a superscript r to denote the region. These have been omitted in this description).

He then further defines the change in consumption as:

$$C = c(Y - Td + R) \qquad (14)$$

where:

Td = the change in direct tax

R = the change in net transfers to households

and

$$Td = tdY \quad (15)$$

$$Ti = tiC \quad (16)$$

$$R = -uY \quad (17)$$

$$M = mC \quad (18)$$

and c, td, ti, u, and r are parameters.

Substituting (14), (16) and (18) into (13) gives:

$$Y = c(Y - Td + R) + G - mC - tiC \quad (19)$$

Further substituting (14) for C in (19) gives:

$$Y = c(Y - Td + R)(1 - m - ti) + G \quad (20)$$

and substituting (15) and (17) into (20) gives:

$$Y = c(Y - tdY - uY)(1 - m - ti) + G \quad (21)$$

$$= cY(1 - td - u)(1 - m - ti) + G \quad (22)$$

Factoring (22) gives the basic formulation of the regional income multiplier Kr if G is omitted:

$$Kr = \frac{1}{1 - c(1 - td - u)(1 - m - ti)} \qquad (23)$$

Substituting in values for the parameters would give a multiplier of:

$$Kr = \frac{1}{1 - 0.8(0.62)(0.44)} = 1.28 \qquad (24)$$

An Initial Evaluation of Traditional Keynesian Multipliers

The traditional keynesian multiplier is estimated on the basis of leakages from the circular flow of income. Such leakages are any flow (payments for purchases from elsewhere, taxation and savings) which is not locally based.

In applying the traditional keynesian multiplier method the basic formulation has been modified in various ways. The regional multiplier has been modified to take account of immigrant (non-emigrant) flows of income, the repercussions of inter-regional trade, immediate leakages of the injection and feedback from induced injections.

When applied to tourism in the Great Britain the values used in the model have been derived from published national data. As a result Archer has commented that in respect of the study of Devon and Cornwall (Lewes, 1970), "there is no reason to accept the results as valid for.... [the area]....in particular but instead....as a guide to the probable limits of tourist multipliers in similar regions" (Archer, 1973, p45).

Wanhill (1983, p10), however, claimed that such multipliers are likely to underestimate the value of the local income multiplier by about 20 per cent.

The main drawback of the method, however, is that it develops one coefficient which expresses the impact as an increment to the direct impact. Therefore it treats spending by a tourist in a hotel in exactly the same way as a tourist buying a souvenir from a department store. This reduces its value as a guide to policy as is shown in Chapter Nine.

THE INPUT-OUTPUT METHOD

Introduction

The previous methods of estimating the economic benefits of economic activity (export base and traditional keynesian) do not provide much detail about the changes that occur and the reasons for these changes. Traditional keynesian analysis is better in some respects in explanation but in both cases the end result is a single coefficient by which the initial injection of money is multiplied to determine the total impact.

Input-output methodology provides far more detail about the scale and nature of change as a result of an injection of money into an economy. In input-output analysis the focus is on modelling the inter-relationships, or flows of products and services, between sectors of the economy. Thus input-output analysis provides the most detailed form of regional economic analysis.

Despite the promise of a detailed analysis input-output methodology has not been extensively used in Great Britain in studies of the economic impact of tourism because of the time and costs involved. Blake and McDowell produced "A Local Input-Output Table" (1967) to compare the effects of tourism and of university expenditures on St. Andrews in 1965. Archer used the method in "Tourism in Gwynedd: An Economic Study" (1974). Archer again used the method in "Manpower in Tourism - the Situation in Wales" (1977). The Scottish Council Research Institute (SCRI) combined the results of an input-output analysis of the Scottish economy with the visitor spending data produced by Henderson and Cousins for Tayside (TRRU, 1975) to estimate "The Economic Importance of Visitors to Scotland" (1978).

Outside Great Britain studies which have used input-output methodology include work on Southwestern Wyoming (Harmston, 1969), the Sullivan and Clinton counties in Pennsylvania (Gamble, 1965), Door County, Wisconsin (Strang, 1970), the arts as an industry in the New York-New Jersey Metropolitan Region (Port Authority of New York and New Jersey, 1983).

At a national level there have been studies of the economic impact of tourism on the United Kingdom (Richards, 1972) and on Ireland (Norton, 1982).

The Components of Input-Output Analysis

Input-output methodology can be traced back to Francois Quesnay's "Tablea Economique" (1758). This was a descriptive device that showed the relationship between sales and purchases for broad sectors of the economy. In 1877 Walras developed a complex theoretical system which stated the inter-dependence among industries along with equations covering economic behaviour. The

use of input-output as a tool of economic analysis, however, has its basis in the work of Leontief (1951). He simplified Walrasian theory by assuming linear and fixed coefficient production functions.

Input-output analysis begins with a transactions matrix (Table 2.1). In such a matrix the economy is depicted as, and divided into, producing sectors and consuming sectors. The production sectors are listed on the vertical axis and the consuming sectors on the horizontal axis. In the table there are three sectors shown, each appearing on both axis.

By reading across the rows of the transactions matrix it is possible to discover how much of an economic activity's output is allocated to other industries in the region. By reading down the column it is possible to discover how much each industry purchases from other industries in the region.

The total output of each industry can be obtained by summing across the row. This total for each sector is given in the column labelled final demand. This final demand is composed of personal consumption expenditures, private investment, exports, government purchases and changes in inventories.

The total inputs for each industry can be obtained by summing down each column. Labour inputs are included as value added. They are added to the goods and services inputs to give total inputs.

The result is that the transactions matrix has total inputs equal to total outputs. The next stage is to produce a direct requirements matrix (Table 2.2). This is accomplished by dividing each cell in the transactions matrix by the respective column total.

Table 2.1: The Transactions Matrix.

Producing Industry	Consuming Industry					
	Sector 1	2	3	4	Final Demand	Total Output
Agriculture	10	65	10	5	10	100
Manufacturing	40	25	35	75	25	200
Services	15	5	5	5	90	120
Other	15	10	50	50	100	225
Value Added	20	95	20	90		
Total Input	100	200	120	225		

Table 2.2: The Direct Requirements Matrix.

Producing Industry	Consuming Industry			
	Agriculture	Manufacturing	Services	Other
Agriculture	.10	.325	.083	.022
Manufacturing	.40	.125	.292	.333
Services	.15	.025	.042	.022
Other	.15	.050	.417	.222

Thus in the direct requirements matrix each cell represents how many pounds worth of input is required to produce a pounds worth of the output of that column. The values in the cells are known as the input-output coefficients.

The direct requirements matrix is used to determine the impact on a region of changes in the level of final demand. This is accomplished through a procedure called Leontief Inverse. This procedure solves the linear simultaneous equations implicit in the direct requirements matrix. The result is Table 2.3 in which each element represents the direct and indirect requirements that are needed to support the given levels of final demand. This table is known as the total requirements matrix. It is also possible to include the induced impact, resulting from the respending of income earned, by expanding the matrix to include the household sector. This effectively treats the household as an industrial sector.

The cells in the inverse matrix, as indicated in Table 2.3, contain both the direct and indirect inputs of many rounds of purchasing. Thus if there is a one pound increase in final demand for one industry the output of other sectors will increase according to the ratios in Table 2.2. Rather than work through these linkages individually the impact can be estimated by summing down each column in Table 2.3. This gives the multiplier values shown in the final row in Table 2.3.

The multiplier shown in Table 2.3 is not the same as the traditional keynesian one as that related to changes in income. However, it is possible to estimate income multipliers (and employment multipliers) by converting the value added row in Table 2.1 into coefficient form and then multiplying the cells in the

Table 2.3: Total Requirements (Inverse) Matrix.

Producing Industry	Consuming Industry			
	Agriculture	Manufacturing	Services	Other
Agriculture	1.50	0.59	0.44	0.31
Manufacturing	0.96	1.57	0.88	0.72
Services	0.27	0.14	1.15	0.10
Other	0.50	0.29	0.76	1.44
Output Multiplier	3.23	2.59	3.23	2.57

Table 2.4: Derivation of Type 1 Multiplier.

Type of Income	Sector			
	Agriculture	Manufacturing	Services	Other
Direct (1)	0.200	0.475	0.167	0.400
Direct + Indirect Income Change (2)	1.001	1.003	1.002	0.997
Indirect Income Change (3)	0.801	0.528	0.835	0.597
Type 1 Multiplier	5.01	2.11	6.00	2.49

1 Value added entry of Table 2.1 expressed as a coefficient.

2 The direct and indirect income change.

3 The indirect income change (2-1).

4 Type 1 multiplier (2÷1).

inverse matrix by the relevant income coefficient. Table 2.4 shows results of such an exercise.

A Formal Description of Input-Output Analysis

Input-output analysis is based on linear simultaneous equations which can be solved in a number of ways. For example, the solution of the equations can be found using a technique known as Leontief Inversion.

The output of a sector of the economy can be shown as:

$$X_1 = X_{11} + X_{12} + X_{13} + Y_1 \qquad (25)$$

where for this sector 1:

X_1 = the total output of sector 1

X_{12} = the output of sector 1 used as an input by sector 2

Y_1 = the output of sector 1 which is final demand.

or

$$X_1 = \sum_{j=1}^{n} X_{1j} + Y_1 \qquad (26)$$

In other words the total value of the output of sector 1 is equal to the value of its intermediate outputs plus the value of the output that goes to households, to expanding productive capacity and to the public sector, that is final demand (Y_1). This of course could be re-written to cover all sectors in general:

$$X_i = \sum_{j=1}^{n} X_{ij} + Y_i \qquad (27)$$

where:

i = the ith sector

j = the jth sector

Returning to equation 25 it is assumed that X_{12}, the value of the output of sector 1 required by sector 2, is a function of X_2, the output of sector 2, and that this is a constant proportion. This allows X_{12} to be expressed as a proportion of the total inputs required by sector 2:

$$X_{12} = a_{12} X_2 \qquad (28)$$

or

$$a_{12} = \frac{X_{12}}{X_2} \qquad (29)$$

On this basis the specification for sector 1 given in equation (25) can be re-stated as:

$$X_1 = a_{11}X_1 + a_{12}X_2 + a_{13}X_3 + Y_1 \qquad (30)$$

The equation presented in equation 30 is for one sector of a three sector economy and would be repeated for each of the other sectors. The resulting three

equations can be re-written in matrix notation as:

$$X = Ax + Y \tag{31}$$

where:

X = the column vector X_1, X_2, X_3

Y = the column vector Y_1, Y_2, Y_3

A = the direct requirements matrix in which the ij elements are the technical or input output coefficients.

The direct requirements matrix is:

$$A = \begin{bmatrix} a_{11} & a_{12} & a_{13} \\ a_{21} & a_{22} & a_{23} \\ a_{31} & a_{32} & a_{33} \end{bmatrix} \tag{32}$$

Equation (31) can be rearranged to:

$$X - AX = Y \tag{33}$$

and factoring out X gives:

$$(I - A)X = Y \tag{34}$$

where (I - A) is the Leontief Matrix which looks like:

$$I - A = \begin{bmatrix} 1-a_{11} & -a_{12} & -a_{13} \\ -a_{21} & 1-a_{22} & -a_{23} \\ -a_{31} & -a_{32} & 1-a_{33} \end{bmatrix} \qquad (35)$$

with I being the 3 x 3 unit matrix.

Equation 34 can be further re-arranged to give:

$$X = (I - A)^{-1} Y \qquad (36)$$

Thus changes in the output of all sectors resulting from a change in final demand can be estimated using the inverse of the Leontief Matrix.

The elements of the inverse matrix show the direct and indirect output required from sectors in response to a unit increase in final demand. A simple output multiplier can be obtained by summing the columns of the inverted Leontief Matrix and can be converted into an incomes or employment multiplier using a coefficient which presents sector income as a proportion of sector output. A Type 1 income multiplier, which shows direct and indirect income generated by a change in direct income, would be:

$$K_j = \frac{\sum_{i=1}^{n} d_{ij} W_i}{W_j} \qquad (37)$$

where:

K_j = the income multiplier coefficient

d_{ij} = the simple output multiplier for sector j

W_i = the income coefficient of the ith sector

W_j = the payments to households per £1 of output in sector j

An Initial Evaluation of Input Output Analysis

Input-output analysis and the multiplier values that can be derived from it are the most detailed form of regional analysis. The analysis is concerned with the production and distribution characteristics of individual industries and with their trading relationships. The basic framework for the analysis is the inversion of the Leontief Matrix.

The problems in applying input-output methodology are covered in a number of texts, for example Isard (1969) and therefore it is not intended to go into them in detail here. Some are, however covered in a later chapter in that proportional multiplier analysis, the subject of this thesis, uses a modified form of input-output methodology. Suffice it to say that the problems include, for example, the choice of the set of industries and the validity of the use of constant coefficients.

The main problem in a tourism context, however, is the amount of data and the implicit timescale involved in conducting an input-output analysis. This makes input-output analysis at a sub-national level very cost ineffective as a method of evaluating one sector, in this case tourism, of the economy.

The reason for the costs and the timescale is that an input-output model divides the economy into sectors and

expresses the relationship between these sectors in matrix form. The value of the cells of the matrix are generally based on empirical research, although in a non-tourism context there has been the development of methods to adjust national input-output tables (Hubbard, 1982). While the actual data requirements are very similar to those of the next method, proportional multiplier analysis, the cost and complexity of the data collection exercise to provide the values for each of the cells in input-output analysis, that is each of the economic sectors of the economy regardless of how significant tourism is for each of the sectors, has meant that, as indicated earlier, only four sub-national studies in Great Britain have been based on this method and one of those (Scottish Council Research Institute, 1978) was simply an additional analysis conducted using the input-output model constructed of the Scottish economy.

THE PROPORTIONAL MULTIPLIER METHOD

Introduction

This method of estimating the regional economic benefits of different economic activities has been developed in response to the need of tourism policy makers for a cost-effective method of demonstrating and analysing the economic benefits of tourism. Studies based on proportional multiplier methodology are generally based on original work by Archer (1973). The methodology exhibits some of the features or characteristics of both traditional keynesian analysis and input-output analysis. It is not intended to describe, or review, this method in detail in this chapter because the method is the subject of the

thesis.

This method has been adopted in a range of different contexts in Great Britain. There have been studies of rural areas such as Appleby, Keswick and Sedbergh (Archer, 1977) and of coastal areas such as South East Dorset (Vaughan, 1985). There have been studies of small urban areas such as Winchester (Vaughan, 1984) and larger urban areas such as Edinburgh (Vaughan, 1977). There have been studies incorporating analysis of different community types in a region such as the study of Greater Tayside (TRRU, 1975) and of different economies within a standard economic planning region such as Scotland (Vaughan et al, 1987). There have also been studies of specific events such as the Edinburgh Festival (Vaughan, 1977).

Thus it can be seen that this method has been extensively used and, as will be demonstrated in this thesis, has added substantially to knowledge about the benefits provided by tourism both in general terms and in the context of specific types of host area. A full listing of the studies conducted in Great Britain is given in the next chapter. Outside Great Britain there have been studies of Victoria in British Columbia (Liu, 1983) and the Okanagan Region of British Columbia (Var, 1984).

The Components of the Proportional Multiplier Method

The basis of the proportional multiplier method is to measure incrementally the impact of the introduction of new resources into an economy. At each incremental stage the money resulting from the introduction of new financial resources is converted into the measure of impact required, for example income. The stages, using the example of visitor spending, are:

a) the direct stage, which is the spending of visitors on goods and services provided by hotels, shops, restaurants and other tourist facilities,

b) the indirect stage, which consists of the successive rounds of local business transactions that result from, and include, the purchase of goods and services by the businesses in which visitors spend their money, and

c) the induced stage, which is the respending by local residents of the income earned directly, or indirectly, as a result of visitor spending.

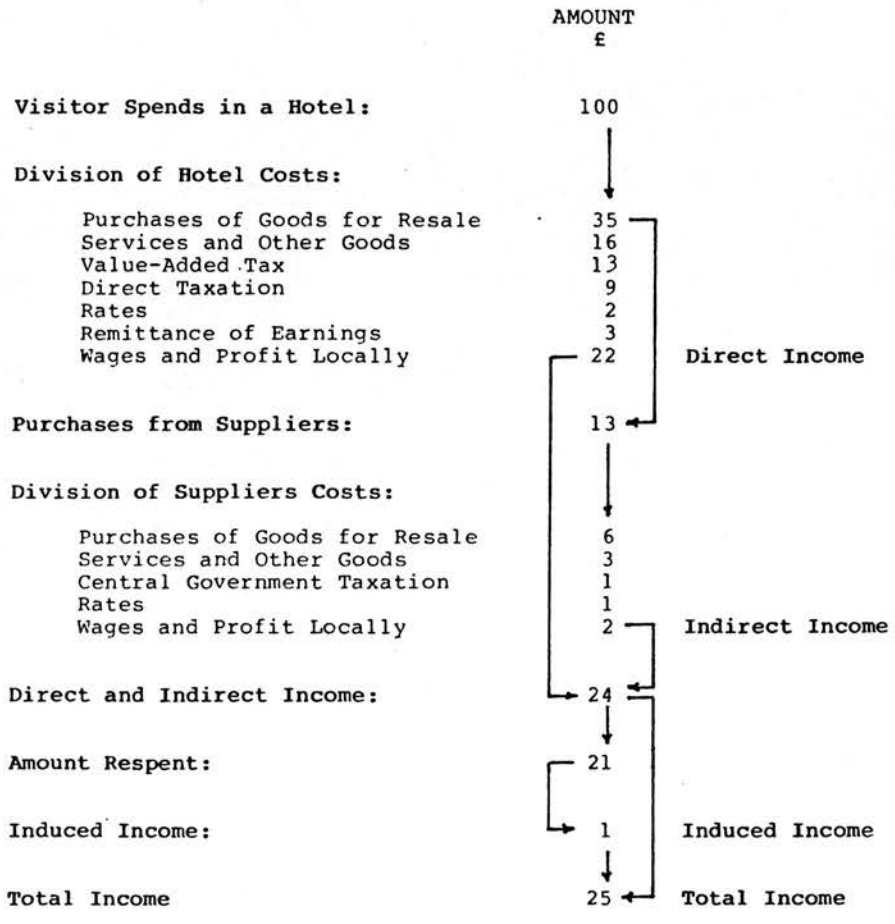
In terms of recurrent spending by visitors the method is based on analysing, for each type of visitor, the impact of spending in each of these stages and expressing the result as a proportion of the initial amount spent by the visitor. A simplified schematic view of this is given in Figure 2.1 which is based on showing how income is created.

In Figure 2.1, for example, a typical hotel-based visitor spends £100 in a hotel. The hotel allocates this turnover to different uses, for example, purchasing goods for resale, and paying out wages and profit. If these initial payments of wages and profit (net of tax) are paid to people living in the area or to companies, the head office of which is located in the area, then these amounts are classified as direct income.

As indicated the hotel makes purchases of goods for resale and also other purchases of services and goods.

FIGURE 2.1: FLOW OF VISITOR SPENDING THROUGH THE LOCAL COMMUNITY.

FIGURE 2.1 - DERIVATION OF COEFFICIENTS OF IMPACT



Some of these purchases will be made from local businesses. These businesses, and their suppliers will also allocate their turnover to different uses. Again some will be allocated to wages and to profit (net of tax). These allocations would be classified as indirect income in this analysis.

The income earned, directly or indirectly, may be respent. If it is it will, by the same process, bring about further income (net of tax). This additional income is termed induced income.

Finally, the analysis presents the results of this circulation of visitor spending as a proportion of the original amount spent by the visitor. In the case of the example given in Figure 2.1 the answer would be an income multiplier coefficient of 0.25. This means that for every £100 spent by a visitor in a hotel £25 becomes income to local residents.

A Formal Description of Proportional Multiplier Analysis

This thesis includes a detailed exposition of the algebraic formulation of this type of multiplier study. Therefore, at this stage, it is only necessary to present a brief summary of the main components.

The development of this model can be traced back to work by Clawson and Knetsch (1966, pp 239-241), although the specific model detailed here is more closely derived from work by Archer (1973). The model by Clawson and Knetsch was designed to estimate the effect of increased tourist spending on local income. The model was stated as:

$$K = A \frac{1}{1-BC} \qquad (38)$$

where:

K = the tourist income multiplier

A = the proportion of initial spending remaining within the economy

B = the proportion of their income that local people spend on local products

C = the proportion of the spending by local people that accrues as local income

In this model Clawson and Knetsch recognised that a significant proportion of visitor spending may never enter the local economy. There are 'instantaneous' leakages such as taxation and purchasing of goods and services from elsewhere as well as remittances of income earned. Thus a significant element of the analysis needs to be concentrated on estimating the proportion of visitor spending that remains in the economy initially.

Using the proportional multiplier method a general model for income generation, for example, taking into account the leakages at different stages in the circulation of money, can be defined as:

$$Yr = Q\ Yn \frac{1}{1 - L\left(\sum_{i=1}^{I} Xi\ Zi\ Yi\right)} \qquad (39)$$

where:

Yr = total income generation in region r

Q = the money introduced into the economy through the purchase of goods and services

Yn = the regional income generation coefficient (direct plus indirect) for the type of business in which the money introduced is spent

L = the average propensity to consume

Xi = the proportion of local resident spending accounted for by the i^{th} type of business

Zi = the proportion of local resident spending in the i^{th} type of business which is spent in the local area

Yi = the income generation coefficient (direct plus indirect) of the i^{th} type of business

This model of income creation, therefore, consists of three main parts.

The first part is Q which is the amount of money introduced initially into the economy.

The second part is Yn which is the income generation coefficient for the type of business in which the injection of money occurs. This factor allows for the removal of leakages through, for example, the purchasing of goods and services and taxation, and the inclusion of the additional income resulting from inter-business transactions. The value taken by Yn measures income (direct plus indirect) as a proportion of the initial injection.

The third part is the remainder of the equation which represents a modified form of the traditional keynesian multiplier of 1/1-c which has been covered in an earlier section.

An Initial Evaluation of Proportional Multiplier Methodology

In the United Kingdom studies of the economic impact of tourism using this methodology have consisted of three component parts. Firstly, they have included the estimation of how much is spent in each type of business by different types of visitor. Secondly, they have collected data, for each type of direct business and for their suppliers, which allowed the conversion of visitor spending into the measure of impact desired. Thirdly, they have incorporated a method of estimating the induced effect of additional income within the economy.

Thus the method has been based on identifying the amount and distribution of the multiplicand between different business types (visitor spending) and then analysing the impact of this through a modified form of input-output analysis (separate formulae being developed for each principle business activity) in order to measure the direct and indirect effects and a modified traditional keynesian multiplier in order to measure the induced effect. The total of the direct, indirect and induced effects are then expressed as a proportion of the original spending and not, as has normally been the case with both traditional keynesian multipliers and input-output multipliers as an increment to the direct effect.

This thesis is devoted to examining and detailing both the methodology and results of proportional multiplier analysis. Therefore much of the thesis is concerned with an evaluation of the technique. As a result there is no need at this point to cover in detail the relative merits and shortcomings of this form of analysis. It is sufficient to say that the merits of

this method and the shortcomings of the other methods have resulted in most studies conducted in Great Britain having adopted this approach which offers the benefits of input-output analysis, a set of disaggregate results detailing the benefits of the spending of different types of visitor, without the significant costs in time and money involved in input-output analysis.

AN EVALUATION OF THE RELATIVE MERITS

An earlier section in this chapter outlined measures by which the methods detailed in this chapter might be assessed. These measures were cost effectiveness (defined as the relationship between the objectives and the cost of producing the results), specification (relevance, coverage and accuracy of the data, the model and the results) and community/area sensitivity (the ability to transfer the model between different areas and to apply the model at different times).

During the course of the chapter some initial, non-comparative, evaluations of the methods were given. This section initially considers each of the methods individually in respect of specification and sensitivity. It ends with an assessment of the cost effectiveness of each of the methods in order to demonstrate why proportional multiplier analysis has been the main method adopted for the analysis of the economic benefits of visitor spending.

Visitor Spending

Estimates of visitor spending do provide information which is useful in both an advocacy and planning

context as detailed earlier in the chapter. Detailed consideration of whether visitor spending analysis meets the criteria on specification and context sensitivity as set out at the beginning of this chapter is left to Chapter Four where the alternative means of deriving information about visitor spending are evaluated. Generally, however, the answer is a qualified yes. The level of qualification depends on whether data on spending are obtained through a survey which is conducted specifically for the area under consideration or whether the data on spending are obtained as part of a national 'omnibus' survey such as the British Tourism Survey. The source of the data on spending affects both its comprehensiveness and its quality. In addition, results from national omnibus surveys are generally not available, and where they are they are subject to a level of standard error which may be unacceptable, below the level of the Regional Tourist Board.

Export Base

The export base method hypothesises that all economic activity is either basic or non-basic and that there is a close and stable relationship between the level of basic activity and the level of non-basic activity. The results produced are descriptive. They do not distinguish between different types of tourism or between tourism and other activities. Being descriptive the results of export base analysis can only be used for advocacy purposes because they do not explain why the values have come about. The export base method simply picks up an empirical relationship between exogenous and endogenous activity but does not attempt to explain it.

The initial evaluation earlier in this chapter has already indicated that applying the method has conceptual and technical difficulties relating to, for example, identifying the basic industries. Thus the model is open to question in terms of relevance and coverage. In addition in terms of accuracy the export base model makes the misleading assumption that all economic growth results from export sales. However economic growth is also possible from sources within the area and therefore this approach is likely to overestimate the impact of visitor spending. Archer (1973, pp 74-75), for instance, found that an economic base analysis gave an unrealistically high multiplier (1.47 jobs per 1 direct job) compared with the estimate (1.11 jobs) derived using proportional multiplier analysis. As a result of these considerations impact studies using export base techniques have not been widely used and none have been conducted for tourism in Great Britain.

Traditional Keynesian Method

The traditional keynesian approach goes further than the export base method in that it provides an empirical and theoretical basis for explaining the income augmentation process arising from an exogenous injection. However, even the more complex traditional keynesian formulations are descriptive as they treat all injections as being identical. The value produced is an estimate, normally based on published data, of the increment to the direct effect which is the income or employment created at the point of injection. For policy purposes, however, it is more important to know the size of the initial injection in relation to the impact as is shown in Chapter Eight. Even intuitively, however, it is clear that a pound spent on petrol in an area will have less of a secondary impact than a pound

spent on a meal since the latter has a far higher labour content included in the cost of the purchase. Despite the limitations of using national data (adjusted) and using one coefficient in relation to all economic activities this form of analysis has been used in some tourism studies in Great Britain.

Input-Output Method

Input-output analysis was not developed specifically to measure the economic benefits of tourism spending. However, it can be used in this context if the level and pattern of visitor spending are known. Once these are known then input-output analysis can provide information about output, employment and income which can be incorporated within the planning process as well as providing advocacy information.

In respect of specification input-output analysis can be questioned in terms of the choice of industries included and, as is the case for most economic models, on the assumptions made as detailed earlier. However, perhaps more important in the context of this thesis, and the choice between techniques of assessing the benefits of visitor spending for host communities, there is also a question of the length of time involved in producing the results. While, for example, the results of the proportional multiplier approach can be produced in less than 12 months this has not been true of input-output studies. This certainly will have a bearing on the relevance of the timing of the information in the context of policy making and may also result in 'aged' data. The question in respect of aged data is whether inter-industry relationships change significantly over time and whether it is relevant to work with data 5 or more years old. In addition, the relevance of much of the data may be

questioned in the context of studies which are aimed at assessing the impact of one sector. Input-output analysis requires data on all sectors regardless of the significance of tourism to them. These data implications have resulted very few applications of this analysis to tourism in the United Kingdom.

Proportional Multiplier Analysis

Proportional multiplier analysis has provided both advocacy and planning data for those involved in developing, managing and promoting tourism in a wide range of areas. The relevance, coverage and accuracy of the resulting analysis, however, is dependent on the specification of the analysis, the rigour of the visitor and business surveys necessary to provide the data and on the sensitivity of the results to changes in the assumptions adopted and the compromises made. These are considered in depth in this thesis, as are the changes to the content of the data collection procedures and analysis procedures which have been made in response to the need of policy makers for results which not only quantified the size of the benefits but also provided information on how those benefits were distributed through the community. However, it should be noted that in general terms the method has produced consistent results regardless of the area or the researcher concerned.

Overall Assessment of Cost Effectiveness

Cost effectiveness in this assessment is taken to be the relationship between the time and cost of applying the models detailed above and the results produced. Such an assessment while it tries to be objective nevertheless will be subjective as a result of the different weights which might be attached to the

answers to the questions which formed the basis of the above evaluation of each of the models and their application. Examples of such questions are:

a) Do the results demonstrate that tourism is worthwhile? This is the advocacy consideration.

b) Can the method produce results which can be used to guide the use of resources? This is the planning consideration.

c) Does the method produce answers which only reflect the impact of visitor spending in the area under consideration? This is one of the relevance considerations.

d) Are the elements of the model fully specified so that the data are comprehensive? This is one of the coverage considerations.

e) Is the data used by the model open to question and therefore might it give misleading results? This is one of the accuracy considerations.

f) Is it feasible to apply the method in different areas? This is one of the context sensitive considerations.

On the basis of the answers to these questions the remaining paragraphs of this section explain why proportional multiplier analysis has been adopted for the studies of the economic benefits provided by visitor spending to host communities in Great Britain and, in particular, why it was adopted for the studies on which this thesis is based.

Consideration of visitor spending alone does not provide a complete picture of the economic benefits provided by visitor spending in host areas. While it can provide useful advocacy data in terms of demonstrating both the 'gross' inflow of money and the pattern in which that money is distributed between different businesses it leaves unanswered a number of important questions. These questions relate initially to whether there is actually a benefit or whether the money flows straight back out of the area. This leads to questions about whether the money has any effect on the level of business activity, on local incomes and on jobs. Finally, there are questions about who actually gets the income and the types of jobs created. As a result simple measurement of visitor spending has not proved more than an initial short term solution to the needs of planners in developing tourism policies. Other more complex procedures have been explored.

Both export base analysis and traditional keynesian analysis produce only limited advocacy results which do not advance the planners understanding of tourism significantly. Both can, and do, make use of existing data and therefore are relatively cheap. However with the limitations detailed in this chapter in respect of specification and context sensitivity they have not been widely adopted in tourism studies. In terms of export base analysis, at least, these limitations have prompted one writer to conclude that "the export base model, while cheap, provides estimates worth less than the cost of deriving them" (Frechtling, 1986, p350).

Input output analysis is open to question in respect of cost effectiveness in a sub-national area and in the context of assessing the economic benefits provided by visitor spending. While input-output methodology is the most detailed form of analysis this makes it very

cumbersome when it is just one sector of the economy which it is wished to analyse. The need to cover all sectors of the economy means that much time and money will be expended collecting information which has very little bearing on, or contribution to, the end results. In addition by the time the study is completed the planning questions which brought it about may well have been resolved or have been superseded.

The main form of economic impact analysis which has been used in Great Britain has been proportional multiplier analysis. It is the only one of the more 'complex' methods which has been specifically developed to measure the economic benefits derived from visitor spending. It has been used because it combines a realistic level of data collection with the ability to produce disaggregate results which distinguish between the different impacts of different types of tourist and tourist-related business. Thus it has been shown to be cost effective in answering the questions raised by policy makers within a reasonable time-scale, normally less than one year.

CONCLUSION

It is vital for the economic benefits of visitor spending to be measured as objectively and as accurately as possible if the formulation of policies for the development, management and promotion of tourism is to be based on a sound footing. Tourism is, after all, developed by the public sector not for its own intrinsic worth to the international or national community but for the economic benefits it provides by way of visitor spending and the resulting increases in incomes, jobs and business activity.

This chapter has provided a review of five methods by which the scale and composition of the benefits to host communities provided by visitor spending might be measured. While most people may have heard of the methods, and in some cases may have a detailed knowledge of certain of the methods, this chapter has presented each of the methods to a standardised format. This allows comparisons of the relative merits or shortcomings of each of the methods to be made without having to refer to a range of sources each of which is likely to have a different emphasis and style of presentation. In particular most texts concentrate on the method by which the study was undertaken, or with which the book or article is concerned, and make little more than passing reference to the alternatives. In addition, and in the context of this thesis more important, is that this chapter has contained an evaluation of the relevance and potential contribution of each of the methods to the understanding of the economic benefits provided by visitor spending.

The conclusion to the evaluation of the methods contained in this chapter is that proportional multiplier analysis is potentially the most cost-effective of the methods detailed. A conclusion which is probably reflected in the substantially greater number of studies undertaken in Great Britain having adopted the proportional multiplier approach.

While in general terms, therefore, proportional multiplier analysis is 'better' for the reasons detailed in this chapter the method has not been static in its specification and application. There have been, since 1971, many developments in the specification of the model, in the data collection and analysis and in the presentation of the results. A general introduction to the development of the method, and the contribution

of the work on which this thesis is based, is the subject of the next chapter before more detailed consideration is given in succeeding chapters to the assessment of the methodology and to how understanding of the economic benefits of visitor spending to host areas has been increased.

CHAPTER THREE

A CRITICAL REVIEW OF THE MAIN DEVELOPMENTS IN PROPORTIONAL MULTIPLIER ANALYSIS

INTRODUCTION

Consideration of the economic benefits derived by sub-national areas from being tourist destination areas can be based on any of the five methods outlined in the previous chapter. Each of the methods can provide a contribution to knowledge about the economic effects of tourism. Anyone setting out to investigate the economic impact of tourism in Great Britain, or elsewhere, therefore, needs to understand the strengths and weaknesses of each of the approaches before deciding on which technique to adopt.

The previous chapter has provided a survey and evaluation of each of the methods and, in particular, has presented the reasons why proportional multiplier analysis has been the preferred method of analysis in Great Britain. In broad terms the analysis has been evaluated as the most cost effective. It is considered cost effective because the combination of a modified traditional keynesian multiplier with a modified input-output analysis (the input-output matrix is based on a limited set of businesses, which are classified as 'tourism-related') means that a realistic level of data collection can provide results which are useful in both an advocacy and planning context.

While the previous chapter, therefore, provided a macro analysis of the methodologies available this chapter provides a review of the continuous development

of proportional multiplier analysis. This development was aimed at both improving the methodology of the analysis and at producing results which better encompassed and illustrated the economic impact of tourism. In particular, this chapter demonstrates where the studies on which this thesis is based fit into the broad picture of local impact studies in Great Britain.

The first section of the chapter consists of a review of the main developments during studies which were broadly based on the methodology initially developed by Archer and which were undertaken prior to the studies on which this thesis is based, that is before 1976. This part, therefore, concentrates on detailing the main stages in the development of the specification of the equations.

The second section of the chapter consists of a review of studies which have not specifically adopted the approach put forward by Archer. The main contribution of this section is to indicate why these approaches were not adopted for the work covered by this thesis.

The final section consists of a review of the studies upon which this thesis is based concentrating on providing a series of pointers to the contribution of these studies to the development of the methodology and to the understanding of the economic benefits to host communities provided by visitor spending. The reasons for the developments, however, will be fully explored in the remainder of the thesis in respect of changing contexts (objectives, geographical location and focus of analysis), re-assessment of the specification of the analysis incorporated in the model and the data collection and, finally, changes in the presentation of the results.

These reviews are a necessary introduction to the subject for others who may be embarking on enquiries in this field as the majority of literature reviews tend either to be very dated and therefore do not cover studies conducted after 1975 (for example, Archer, 1977b) or tend to understate, or not demonstrate any awareness of, the importance of the developments in the methodology (in respect of the relevance, coverage and accuracy of the data and analysis involved) and the increase in the understanding of the economic benefits provided by visitor spending through the application of the technique in a wide range of substantially different types of area (for example, Jackson, 1986).

THE MAIN DEVELOPMENTS IN PROPORTIONAL MULTIPLIER METHODOLOGY PRIOR TO 1976 AND THE WORK ON WHICH THIS THESIS IS BASED

B. H. Archer and C. B. Owen

In their study of tourism in Anglesey Archer and Owen had the objective of showing "how economic techniques can be used to measure and explain the regional implications of visitor spending and to prescribe policy measures" (Archer, 1973a, p.xi). To meet this objective the study analysed the impact of tourism on the economy of Anglesey in two ways: a detailed input-output model and a modified input-output model. It is the modified analysis which was the the base study from which the studies in this thesis were developed.

As detailed in the previous chapter the model used was a re-formulation and expansion of the multiplier which was specified by Clawson and Knetsch (1966) as:

$$A \times \frac{1}{1 - BC} \qquad (1)$$

where:

A = the proportion of tourist expenditure remaining in the area after first round leakages

B = the proportion of income that local people spend on local goods and services

C = the proportion of expenditure of local people which accrues as local income

The revised model was first stated by Archer and Owen in "Towards a Tourist Regional Multiplier" (1971) as:

$$1 + \sum_{j=1}^{N} \sum_{i=1}^{n} Q_j K_{ij} V_i \quad \frac{1}{1 - L \sum_{i=1}^{n} X_i Z_i V_i} \qquad (2)$$

where:

j = the types of tourist accommodation, 1 ... N

i = the types of consumer outlet, 1 ... n

Q_j = the proportion of total visitor spending accounted for by the j^{th} type of accommodation user

K_{ij} = the proportions spent on each type of consumer outlet

V_i = the income generation in each category of expenditure

L = the propensity to consume

X = the pattern of consumer spending

Z = the proportion of income earned spent within the region.

Thus the model had four elements.

The first element, Q_j, represented the proportion of total visitor spending by each type of visitor classified by the accommodation they used. In broad terms this was found by taking the numbers using a given type of accommodation and multiplying by the average total expenditure per person staying in that type of accommodation. The result was then divided by the total amount spent by all visitors. Thus this element incorporated into the analysis the ability to take account of different visitors spending different amounts. While these differences are important for policy makers concerned with selective development of tourism they do not feature in export-base or traditional keynesian analysis.

The difficulties in performing this apparently simple exercise are explained at length in "The Impact of Domestic Tourism" (Archer, 1973a, pp 25-39). It should be noted, however, that the definition of Q was not consistent as in both "The Impact of Domestic Tourism" (Archer, 1973a) and "Towards a Tourist Regional Multiplier" (Archer and Owen, 1971) Q was defined as the proportion spent on each type of accommodation and as the proportion spent by each type of accommodation user. The reason for Qj, however, was that it provided a means of weighting for different numbers and volumes of spending by the different types of tourist. Thus the second definition is more likely to be the intended definition.

The second element, K, represented the proportion spent in each type of consumer outlet by visitors and

therefore incorporates into the model the important factor of different spending patterns being associated with different types of visitor. These differences are marked but are ignored by both export base and traditional keynesian analysis but are again important for policy makers concerned with selective development. The amounts spent on each type of purchase were expressed as a proportion of the total.

The third element, V, represented the income generation coefficient for each type of business benefiting from visitor spending. Again this added to the ability of the analysis to provide results which are useful to policy makers concerned with selective development. Different businesses convert their turnover into income and payments to other businesses in different proportions.

Combining this model with data collected through surveys of visitor spending and surveys of the division of turnover by businesses allowed the production of income multipliers which revealed differences between the economic impact of hotel guests, caravan users, bed and breakfast and farmhouse-based visitors. It was also possible to produce a composite multiplier for all four categories.

It is important to note however, as a basis for the comments on the next study, that the composite multiplier, for example, appears to have confused visitor spending with income to local residents. The composite multiplier was given as 1.25. The unit 1 was the initial £1 spent. The remainder was the total repercussive benefit to the region after leakages. Thus for every £1 of tourist spending on Anglesey, 25 pence worth of income after leakages was generated. Archer recognised this error and, at a later date

(1973a), simply quoted the result as 0.25.

Archer has subsequently applied the model in more refined forms, reflecting developments both by himself and other researchers, in four further studies in Great Britain. These studies were of "Tourism in the Coastal Strip of East Anglia" (1977d), "Tourism in Appleby, Keswick and Sedburgh" (1977e), "Tourism in Carlisle and Kendal" (1979) and, finally, "Grant Assisted Tourism Projects in Wales" (1980a).

B. Wheeller and G. Richards

In "Tourism in Cardiganshire: An Economic Study" Wheeller and Richards (1974) evaluated tourist spending and its impact on the incomes of residents of Cardiganshire.

They adopted the model specified by Archer (1971). As with Archer the results were expressed in terms of visitors classified by the type of accommodation they used. However, Wheeller and Richards made one addition to the the analysis and that was to estimate spending and income on the basis of visitors classified by their social class.

The analysis, however, does appear to have misunderstood the nature of the results when dealing with estimating the total local income generated. It confused visitor spending with local income. Thus in estimating the total impact it added the initial expenditure of tourists in Cardiganshire to the additional local income generated by the multiplier effect of the visitor spending. Thus, for instance, in the report it was stated that people staying with friends and relatives spent £7.68 per day which created a further £2.50 of income giving a total income of

£10.18.

This 'error' probably resulted from the way Archer's original description of the model (1971) was interpreted. The description could be considered to be open to more than one way of interpretation and it is interesting that, as indicated above, in "The Impact of Domestic Tourism" (1973a) Archer removed the "1+" element from the equation (see equation 2); the interpretation of which probably resulted in Wheeller and Richards adding tourist spending to local income through the multiplier effect and calling it total local income.

D. Henderson and R. L. Cousins

"The Economic Impact of Tourism: A Case Study of Greater Tayside" by Henderson and Cousins (TRRU, 1975) was conducted using a substantially modified version of the original specification by Archer.

The study analysed the economic impact of tourists in Greater Tayside in three different ways:

a) visitor spending per day and in total,

b) income creation which was defined as wages/salaries, profit and rent (net of tax) to residents of, or businesses based in, Greater Tayside, and

c) employment which was analysed in two ways:

   i) unstandardised employment where all jobs are treated as equal.

   ii) standardised employment where part-time

and/or seasonal jobs are adjusted to full-time equivalents.

These analyses were undertaken on the basis of classifying tourists by the accommodation they used (11 types), by the method of travel they used (4 types) or by the nature of the community (4 types) in which the tourist spent money.

Such a description of the nature of the results of this study undervalues the comprehensive advances made both in the presentation of the results and the specification and content of the analysis.

The first advance, and perhaps the least important, was the inclusion of mode of travel as a basis for classifying visitors in the analysis.

The second advance, or difference, was the composition of the multiplicand. In the Tayside study the multiplicand took the form of a direct injection of cash into the economy in the shape of tourist spending. This is different to the earlier specification by Archer (1971). Thus in the Tayside model the full equation for income generation was defined as:

$$G_r = \sum_{j=1}^{J} \sum_{i=1}^{I} N_j \, Q_j \, K_{ji} \, Y_i \; \frac{1}{1 - L \sum_{i=1}^{I} X_i \, Z_i \, Y_i} \qquad (3)$$

where:

G_r = the total income generated within the region

N_j = the number of days spent in the region by the j^{th} type of tourist

Q_j = the total expenditure per day of the j^{th} type of tourist

K_{ji} = the proportion of tourist expenditure spent in the i^{th} type of business

Y_i = the increase in factor incomes in the region per £1 of turnover to the ith type of business and in all types of business which participate in the subsequent flow of transactions

L = the average propensity to consume

X_i = the proportion of income spent within the region in the i^{th} type of business.

Z_i = the proportion of consumer spending by residents in the i^{th} type of business within the region

The third advance was the separating out, in the results, of the direct, indirect and induced components of the impact of visitors. It is interesting to note that given the descriptions available, in published form, of the previous two studies that they may not in fact have fully, if at all, included an indirect effect but only a direct and an induced effect. There is no clear description of what was included in the first of the Vi expressions in the overall equation presented by Archer (equation 2) and Wheeller and Richards seem only to have included the possibility of businesses purchasing goods and services from retailers.

Thirdly, Henderson and Cousins distinguished between average and marginal businesses. Average businesses were those which were totally dependent on tourism. For these types of business the equation from which the business coefficient for direct and indirect income was produced was specified as:

$$Y_a = \frac{Y_d + \sum_{i=1}^{I} S_{ai}\, Y_i}{D_a} \qquad (4)$$

where:

Y_a = the regional income generation coefficient for an average business

Y_d = the direct income paid out by the business net of taxation and national insurance contributions

S_{ai} = the cost payment from an average business to the i^{th} type of business

Y_i = the regional income generation coefficient for the i^{th} type of business

D_a = the total turnover of the average business

Marginal businesses were those for which tourist spending was only marginal to their normal trade. For these types of business the equation from which the business coefficient of direct and indirect income income produced was specified as:

$$Y_m = \frac{\Delta Y_d + \sum_{i=1}^{I} \Delta S_{mi}\, Y_i}{\Delta D_m} \qquad (5)$$

where:

Y_m = the regional income generation coefficient for a marginal business

ΔY_d = the additional direct income paid out by the business net of taxation and national insurance contributions as a result of visitor spending

ΔS_{mi} = the additional cost payments from a

marginal business to the i^{th} type of business

Y_i = the regional income generation coefficient for the i^{th} type of business

ΔD_m = the additional turnover due to tourist spending in the marginal business

This practice was not taken up in later studies because there are problems in defining average and marginal businesses objectively. In addition, it may be argued that the procedure is ill founded because what is of concern in the analysis is the establishment of patterns within businesses and not with grossing up the results to represent all businesses and all visitor spending. Grossing up is taken care of by the separate analysis of visitor spending. Producing average and marginal business coefficients, therefore, introduces 'spurious' accuracy because there is the problem of how many there are of each type within the community and how visitor spending is divided between them. Therefore, there are conceptual and practical problems in this addition to the specification made in the Tayside study.

The fourth advance was that a tiered-region analysis was incorporated. In the previous studies only one coefficient for the area was produced, for example, the income created by the spending of visitors accommodated in hotels. In the Tayside study the analysis produced coefficients for the local area, for the region and for Scotland.

The final advance was the inclusion of employment multipliers. The possibility of these was referred to by Archer and estimates included for Anglesey in "The Impact of Domestic Tourism" (1973a). But it was in the Tayside Study that the possibility of producing an

employment multiplier similar to the income multiplier, by establishing a relationship between turnover and employment, was developed. Thus Henderson and Cousins presented the employment generation equation as:

$$J_r = \sum_{j=1}^{J} \sum_{i=1}^{I} N_j Q_j K_{ji} E_i + G_r \left(\sum_{i=1}^{I} X_i E_i \right) \qquad (6)$$

where:

J_r = the total employment generated within the region

N_j = the number of days spent in the region by the j^{th} type of tourist

Q_j = the total expenditure of the j^{th} type of tourist

K_{ji} = the proportion of tourist expenditure spent in the i^{th} type of business

E_i = the increase in employment per £1 of turnover to the i^{th} type of business (including direct and indirect effects)

G_r = the total income generation in the region

X_i = the proportion of income spent within the region in the i^{th} type of business

STUDIES NOT DERIVED FROM THE INITIAL SPECIFICATION BY ARCHER

There have also been a number of studies which were not specifically based on the initial specifications by Archer although in broad terms they are similar in approach. These 'other' studies were, firstly, "The Economic Impact of Tourist Spending in Skye" by

Brownrigg and Greig (1974) and, secondly, a number of studies commissioned by the English Tourist Board which adopted the same methodology: these studies were of "Eastbourne" by Industrial Market Research (1976), "Woodspring" by Industrial Market Research (1979), the "Isle of Wight" by MIL Research (1981) and "Torbay", by Peter Southgate and Associates (1982).

Brownrigg and Greig

Brownrigg and Greig produced a similar model to that of Henderson and Cousins. The model estimated differential multipliers (a term sometimes used to denote proportional multipliers) for the impact of additional tourist spending with tourists classified according to the accommodation they used. Thus, for example, for spending in each type of accommodation (9 types used) the model took the form of:

$$V_s = \sum_{j=1}^{n} \sum_{i=1}^{m} E_j (A_j a_i + B_j b_i Y_i) \frac{1}{1-c(1-td-u)(1-m-ti)} \quad (7)$$

where:

V_s = the local value added by sector s

E_j = tourist spending in the j^{th} establishment

A_j = the proportion of the j^{th} establishment's turnover which comprises wages, salaries and profit

a_j = the proportion of the j^{th} establishment's wages, salaries and profits retained in the area

B_j = the proportion of the j^{th} establishment's turnover that comprises all other input purchases

b_i = the i^{th} component of a vector of local purchases coefficients for inputs purchased by the j^{th} establishment

Y_i = the i^{th} component of a vector of local value added coefficients for the inputs purchased by the j^{th} establishment

c = the marginal propensity to consume

td = the marginal rate of direct taxation

ti = the rate of indirect taxation

m = the marginal propensity to import

u = the change in transfer payments within the region as employment rises

The model, therefore, incorporated a multiplicand which expressed the local value added by visitor spending both directly and indirectly and multiplied this by a traditional keynesian multiplier to include the induced effect. However, the model is less comprehensive than that produced by Henderson and Cousins because, as Brownrigg and Greig state, it ignores second and subsequent round indirect effects.

Brownrigg and Greig also produced an employment multiplier along the same lines.

English Tourist Board

The English Tourist Board, as indicated earlier, commissioned a number of studies of economic impact between 1975 and 1982. These followed a methodology developed for "An Evaluation of Selected Tourism Projects" (Industrial Market Research Limited, 1975).

The methodology appears to be similar to the studies described in this chapter in that it attempted to measure the value added at each stage of the

circulation of money in an economy, although no formal algebraic model was presented in any of the reports. However, there are substantial differences in the results produced compared with those of the other studies because of the way in which value added was defined and estimated. These differences are such that the results produced are open to question.

The first difference is that only the direct income effect and the first round indirect income generation effects were included.

The second difference is no allowance was made in the calculations for taxation or national insurance contributions and all income accruing to local residents in the first and second round was assumed to have stayed in the area (no allowance for imports). This substantially increased the level of local income created and the inclusion of tax and national insurance contributions as part of local value added, and the implication is that they are retained in the local economy, is very misleading.

Finally, in these studies it was often only the hotel sector which was surveyed in respect of the businesses in which visitors spend their money. The resulting values were assumed to apply equally in the rest of the accommodation sector and in the non-accommodation sector. This is an assumption that is open to question given the results produced in the other studies and which is quite likely to have produced very misleading results.

STUDIES POST 1975 AND ON WHICH THIS THESIS IS BASED

At the point at which the studies on which this thesis is based were started there were three 'alternative' methods available. The work could follow the method initially set out by Archer, the method as developed by Brownrigg and Greig or the analysis developed for the English Tourist Board. For the reasons outlined above the method adopted was that of Archer as re-formulated by Henderson and Cousins.

The remainder of this chapter is taken up with a brief statement of the advances made during the studies upon which this thesis is based and which were undertaken by the author of this thesis. These advances take two broad forms. Firstly, advances in the sense of increasing understanding of the economic benefits of visitor spending by applying the analysis in a range of areas and contexts. (These increases in understanding are the basis upon which the studies are grouped in the brief review below). Secondly, advances in the sense of progressive modification of the methodology to provide more informative and reliable results. The major elements in this are given below but many changes are not covered as they reflect a response to the changing context of the study. These context sensitive adjustments are, however, covered in the later chapters.

Changing the Focus to Consideration of an Urban Area

By 1976 when the first of the studies on which this thesis is based was undertaken the results of three studies had been published (Anglesey, Cardiganshire and Tayside), each of which were studies conducted in rural areas. The first study by Vaughan (the author of this

thesis) however, unlike the earlier studies, was of a major urban area. The study examined "The Economic Impact of Tourism in Edinburgh and the Lothian Region" (1977a).

In order to analyse the impact of visitor spending in Edinburgh the specification of the model as set out for the Tayside Study (TRRU, 1975) was adopted. Thus the data collection and analysis had much in common with the Tayside study. That said, there were differences most of which, such as the design of the visitor survey, reflected the change of context or increased the relevance of the data provided, such as the change in the definition of seasonal employment. The major obvious changes were that the study extended the analysis of the economic impact of tourism by introducing length of stay into the analysis as a factor in visitor spending and the area of home residence of visitors as an important determinant of impact.

Analysing a Major Event

In addition, a second study was undertaken at the same time as the above study of Edinburgh. This second study also broke new ground. This second study was a detailed income multiplier analysis of "The Economic Impact of the Edinburgh Festival, 1976" (Vaughan, 1977b). This study remains the only complete multiplier analysis of a special event which has been conducted in Great Britain despite the suitability of proportional multiplier analysis to the measurement of the impact of such events. (The only other study of a special event in Great Britain was undertaken by Blake, McDowell and Devlen who analysed "The 1978 Open Championship at St. Andrews" (1979). This later study was not as comprehensive)

The main methodological, as opposed to contextual, advance in the Edinburgh Festival study, was the development of a short and a long questionnaire. The importance of this is detailed in Chapter Four but in essence it allowed information to be collected about visitors to Edinburgh who were not attending one or more of the four festivals and, when more fully developed in a later study, allowed for more selective, and thereby efficient, interviewing.

Providing Comparative Results

Following on from the Edinburgh studies were two studies which substantially extended understanding of the comparative impacts of tourism in macro and micro terms. These studies were of "The Economy of Rural Communities in the National Parks of England and Wales" (TRRU, 1981) and "Tourism in the Economy of Scotland" in 1980 (Vaughan et al, 1987).

In the study of national parks proportional multiplier analysis formed just one part of a much larger study. The analysis was aimed at meeting one of the objectives of the study. That objective was "to ascertain the contribution of the different economic activities and policy alternatives" (TRRU, 1981, p1). In meeting this objective the study made three advances.

Firstly, the study of the national parks produced coefficients for tourism-related activities and other economic activities calculated on the same basis. Thus this study allowed comparison of tourism with other economic activities (a macro analysis as detailed in the previous chapter) and demonstrated that many of the statements which had been made about tourism in respect of being a weak industry on which to base an economy were open to question. No other study has conducted a

comparative study of the economic benefits of tourism vis-a-vis the benefits provided by other economic activities.

Secondly, the study provided estimates of a sales (purchases) multiplier. Such a multiplier was implicit in the calculation of income and employment multipliers but had not before been separately identified in detail. For example, limiting the purchasing to two rounds for ease of exposition, the specification of purchasing directly and indirectly by a business in which visitors spend money was defined as:

$$P_n = \frac{\sum_{d=1}^{D} P_{nd} + \sum_{d=1}^{D} \sum_{i=1}^{I} P_{nd} P_i}{T_n} \qquad (8)$$

where:

P_n = the purchase generation coefficient of a business of type n

P_{nd} = the local direct (first round) purchases by a business of type n

P_i = the purchase coefficient of the i^{th} type of local business

T_n = the turnover of a business of type n

Thirdly, the study produced both incremental and proportional multiplier coefficients. An incremental multiplier measures the increment to the direct effect and can be simply specified as:

$$\frac{\text{Direct + Indirect + Induced}}{\text{Direct}} \qquad (9)$$

whereas a proportional multiplier measures the total effect as a proportion of the original amount introduced into the economy. This can be expressed simply as:

$$\frac{\text{Direct + Indirect + Induced}}{\text{Amount Introduced}} \qquad (10)$$

The difference is that in the incremental case the denominator is the direct effect of visitor spending, that is the income (wages, profit, rent) which resulted locally in the businesses in which visitors spent their money, whereas in the proportional case the denominator is visitor spending. These provide different guidance to policy makers as detailed in a later chapter. Again it was possible to produce these in earlier studies but they were not produced.

The study of Scotland provided a comparison of different types of tourism in different types of area (a micro analysis as detailed in the previous chapter): the classification of area types being based on a cluster analysis of the socio-economic characteristics of local authority districts in Scotland. While the Tayside study had provided a community-based analysis by looking at the impacts of tourism on different types of community in a rural area this study went further by looking at the impacts in different types of area. Thus it provided a comparative analysis of, for example, tourism-related businesses in an urban type of economy with tourism-related businesses in a remote rural economy.

The study of "Tourism in the Economy of Scotland" in 1980 (Vaughan et al, 1987) introduced, or further

developed, a number of aspects of the methodology.

The first development the study introduced was an 'improved' method of sampling. In this study the sampling was based not only on the type of business, for example hotels, but also the size of business, for example large hotels as opposed to small hotels. This meant that when combined with the weighting referred to below the results became more 'accurate' as the procedure countered the distortions which may have been introduced using simple random sampling. The implications of different sampling procedures are discussed in Chapters Five and Eight.

The second development was that the study introduced weighting into the analysis of the business survey. Using estimates of the number of establishments, sub-divided by size and type, the basic establishment data was adjusted to 'represent' the population from which the sample was drawn. In previous studies the only weighting factor used was visitor spending. The implications of this approach are detailed in Chapter Eight.

The third development was that the study provided a far more sophisticated analysis of the characteristics of the businesses in which visitors spent their money. Thus it represented a move away from the emphasis on analysing the 'multiplier effect', as in earlier studies, and towards analysing the direct impacts. Thus the study:

a) classified income according to the recipient. There are estimates of income to employees, profit and rent.

b) analysed taxation according to whether it was in the form of direct taxation (income tax, corporation tax and national insurance), indirect taxation (VAT gross) or rates paid to the local authorities. Previous studies had not estimated the amount of taxation resulting from visitor spending.

c) analysed purchases by tourist-related businesses. Purchases were analysed and divided between 'cost of sales' and 'other' overhead items.

d) divided the workforce into five principal types: owners and family, direct service (such as waiters, shop assistants), support services (such as cleaners and chefs) and seasonal. These classifications were further sub-divided between male and female and full and part-time.

In order to undertake the 'new' analyses the content of the questionnaire used during the business survey was substantially revised.

Finally, for reasons which are explained in the chapter on "Tourist-Related Businesses and the Circulation of Money" (Chapter Five) this study modified the specification of income earned from tourism which was fed through the induced multiplier. In earlier studies all income was fed through the induced multiplier whereas in this study rent was excluded. Previous studies probably over-estimated the induced effect because income other than personal disposable was fed through a multiplier which was based on family spending of disposable income earned.

Assessing Tourism in Major Tourist Destination Areas

These two studies were followed by three studies of major tourist destinations in southern England. The studies were of Brighton and Hove (1983), Winchester (1984) and South East Dorset (1985). These again furthered understanding of the effects of tourism as they represent, along with the study of East Anglia by Archer, the main studies of major tourist destinations. There are also the studies undertaken for the English Tourist Board, as detailed earlier, but these studies have serious limitations, as detailed in this chapter, which perhaps reduce their usefulness. In addition, as mentioned earlier, they adopted a different approach to proportional multiplier analysis which means that the results are not strictly comparable with the mainstream work covered by this thesis.

These studies extended various elements of the impact studies above, in particular the emphasis on exploring the nature of the direct effect.

The main changes to the methodology in these studies of Brighton and Hove (1983), Winchester (1984a) and South East Dorset (1985) were the development of the business questionnaire to meet the requirements of an enhanced analysis of the components of the direct impact and to allow for the validation of the answers given during the interview.

For the latter objective there was a fundamental re-think of the design of the questionnaire as detailed in a later chapter. In terms of analysing the direct impact the main change was the division of profit between the disposable income of owners, for example 'drawings', and profit retained within the business as an addition to capital. This division of profit allowed

for the induced analysis to be adjusted to exclude retained capital for the same reasons as rent was excluded in the economy of Scotland study and which are explained in a later chapter.

Assessing Tourism in A Metropolitan County

"An Economic Impact of Tourist and Associated Arts Developments on Merseyside" (1986a and 1986b) is only the second time that the impact of tourism on a major urban area has been fully examined. However, the context of Merseyside is vastly different to that of the previous urban area studied, Edinburgh. In addition the study of Merseyside incorporated a specific analysis of the economic impact of the arts which was also a major and unique development, although it shares in common with the earlier analysis of the Edinburgh Festival some interesting policy related questions which will be explored in Chapter Ten.

CONCLUSION

This chapter has identified the main studies of the economic impacts of visitor spending which have been conducted in Great Britain before the succeeding sections provide a more detailed analysis of the conceptual and practical developments made during the studies on which this thesis is based. Overall, this chapter has set the context for the remainder of the thesis in that it has served two purposes.

Firstly, it has demonstrated that since the original work by Archer the method has been modified and become more sophisticated. The range of results produced has been extended and the focus of the analysis has

increasingly become concerned with detailing the types of benefits. These, and other advances in the methodology, have taken place either to meet the changing requirements of the commissioning bodies (the move from simple quantification of benefits to identification of who benefits) or to make the specification of the data collection and analysis more 'accurate'. However, this section did not go into depth on these amendments as this is done in Chapters Four, Five and Six.

Secondly, the review has provided a guide to the importance of the studies on which this thesis is based in terms of the contribution to the understanding of the economic impacts of visitor spending they provided. Thus, for example, the studies on which this thesis is based have covered a range of different areas in terms of size (Scotland as compared with the City of Winchester) and type (Exmoor National Park as compared with the Metropolitan County of Merseyside). All the studies have arisen because planners and policy-makers have needed to know about the impact of visitor spending for either, or both, of two reasons: advocacy and planning. The studies have been specifically commissioned to meet a need for 'local' information. As such they have undoubtedly enhanced the understanding of tourism both in the specific context of the areas in which the studies were undertaken and in the general context of providing comparative results. This increase in understanding has only been highlighted in this section. A fuller consideration is given throughout this thesis, in particular in Chapter Nine.

This chapter concludes the background review. The next four chapters, which form Part Two of the thesis, provide a detailed description and evaluation of the components of proportional multiplier analysis.

PART TWO

THE ELEMENTS OF PROPORTIONAL MULTIPLIER ANALYSIS

CHAPTER FOUR

VISITOR SPENDING

INTRODUCTION

Money can be introduced into a local economy, as a result of tourism, in a number of ways. Firstly, expenditure on any initial construction necessary to cater for visitors. Secondly, spending by those visiting the area on their accommodation, food and drink and so on. Thirdly, induced business spending resulting from the additional business brought about by visitor spending. Such spending can take the form of investment in new facilities to meet demand. Each of these 'injections' of money will set in motion a series of reactions within the economy which will result in increased economic activity, increased income and increased employment.

The actual measure of the multiplicand, or injection of money, adopted will be determined by the objective of the study. The studies of the economic impact of tourism, however, have been based on recurrent spending by the tourists on things such as their accommodation because those commissioning the studies have been concerned with understanding the extent and pattern of the economic benefits offered by different types of visitor in order to formulate policies for the development, management and promotion of tourism.

Measuring the extent and pattern of visitor spending, however, has been complicated for two reasons. The first reason is that the spending by visitors takes place in a large number of businesses. Thus there is

no specific injection but a series of injections each of which has to be estimated. The second reason is that obtaining the data on visitor spending has involved solving problems not encountered in 'standard' household surveys of the type covered in traditional textbooks on survey design. Not the least of these problems, which are covered later in this chapter, is that there is generally only limited knowledge about the population of visitors before the survey is undertaken.

There has been no clear cut process of continual refinement to the methodology of survey and questionnaire design in order to provide a solution to the problems identified in the paragraph above. Each visitor survey has been governed by the context of the study (the nature of the area, the resources of time and money available and the level of co-operation available from official bodies such as the police) and the specific problems attached to each of these contexts.

Given the context sensitive nature of visitor surveys, therefore, the development and learning process in the undertaking of such surveys aimed at measuring visitor spending has not been smooth and neither is it readily evident. It has been more a case of problem solving based on previous experience. Therefore, this chapter evaluates the alternative solutions to the problems encountered during the visitor surveys undertaken for the studies of Edinburgh in 1976 (Vaughan, 1977a and 1977b), Exmoor National Park in 1979 (TRRU, 1981) and Merseyside in 1985 (Vaughan, 1986a).

The chapter considers the main difficulties, many of which are specific to type of survey(s) being examined, involved in estimating the level and pattern of visitor

spending. It should be noted that at the time of the first of the studies on which this thesis is based, the studies conducted in Edinburgh (Vaughan, 1977a and 1977b), there was not a well established literature on the subject of field surveys as opposed to household surveys and studies such as the Scottish Tourism and Recreation Study in 1972-73 (Coppock and Duffield, 1976) and Greater Tayside (TRRU, 1975) were pioneering.

The broader evaluation presented in this chapter is important because as Pearce has commented in relation to studies of visitor spending: "sometimes methodological difficulties are stated explicitly; other times they appear to be ignored or glossed over" (1981, p240). Thus the broader overview can provide a basic introduction to those considering undertaking, or using, the results of visitor surveys in respect of the three main methodological areas: obtaining a representative sample, designing a questionnaire to give the required answers in an outdoor setting and with severe constraints on the time available, and finally, estimating the total number of visitors/visitor nights. Such reviews are available for general leisure surveys of specific sites such as a country park, for example the review of on-site questionnaire surveys by Bardon and Harding (1981), but they are not available in the context of the specific problems of obtaining and analysing visitor spending for a large area such as a local authority district.

MODELLING VISITOR SPENDING

The hypotheses on which the studies of visitor spending undertaken as part of tourism economic impact studies were based, and which have proved true in practice, are

that the total size of the injection and the pattern of the injection, are dependent on the type of tourist.

As a result consumption functions for each tourist type have been required which define the share demanded from each sector of the direct tourist-related industry (accommodation, shops and restaurants for example) by each type of tourist. Thus for a given type of tourist, the consumption function for average daily expenditure could be expressed as:

$$Q_j = K_{j1} + K_{j2} + K_{j3} + K_{j4} \ldots + K_{ji} \qquad (1)$$

where:

Q_j = the total daily expenditure by the j^{th} type of tourist.

K_{ji} = the amount spent by the j^{th} type of tourist in the i^{th} type of business.

However, different types of tourist will stay in the area for different amounts of time and will, therefore, spend money which will differ in total and in its distribution between business types. It is necessary to incorporate these differences in the analysis because they are a key to the different impacts of visitor types. Therefore, the actual spending by tourists is incorporated by multiplying the average amount spent per day/night or per visit by the total number of days/nights or visits:

$$Q_t = \sum_{j=1}^{J} N_j Q_j \qquad (2)$$

where:

Q_t = the total amount spent by tourists

N_j = the number of days spent in the area by the j^{th} type of tourist

Q_j = the average total expenditure per day by the j^{th} type of tourist

THE NEED FOR LOCAL MEASURES

Given the above specifications of the equations used for the studies of the economic impacts of visitor spending two sets of data have been required. The first set of data consists of estimates of visitor numbers. The second set consists of estimates of visitor spending. Given the apparent wealth of data collected nationally about tourism it may be surprising that these data sets could not be used and that specific surveys have had to be carried out.

The main national source of data on/analysis of domestic tourism (tourism within Great Britain by residents of Great Britain) up until 1985 was the British Home Tourism Survey (BHTS). Since that year the BHTS has been merged into the British Tourism Survey (BTS). These surveys, conducted by National Opinion Polls (NOP), consist of a systematic probability sample of parliamentary constituencies. Each month a sample of adults (about 2,000) have been questioned about their trips away from home, for one night or more.

The main national data set about visitors from overseas is the International Passenger Survey (IPS) which has

been undertaken by the Office of Population Censuses and Surveys since 1964. The IPS is a stratified sample survey with quotas set for each point of exit from the United Kingdom. Fieldwork is continuous throughout the year. Visitors are asked about their visit to the United Kingdom including places visited, accommodation used, type of transport used and amount spent.

The reason for special surveys being required is that these national data sets, the British Home Tourism Survey, the British Tourism Survey and the International Passenger Survey while they collected and analysed data on both numbers of trips and visitors and on spending by visitors, were, and still are inadequate for four reasons.

Firstly, even had there been results readily available for the communities which were being studied, for most District Council or County Council areas the sample error would have been extremely large (no standard error figures were quoted below the regional tourist board level) given the likely sample size available.

For example, an indication of the problem of sample size for any 'small' area (small in terms of tourist numbers) can be illustrated by the sample available in the BHTS for London in 1981. The overall size of the sample of visitors to London in 1981 was 1,262 and London is a far more important tourist destination than any other in Great Britain. In addition, the analysis requires information based on sub-dividing visitors by the accommodation they used. Again the problem can be illustrated from the London context in that the data on London in 1981 contained information on only 16 people who were paying guests in private houses (generally referred to as B and B).

Secondly, even had the sample size been adequate, and an analysis been available, it would not have divided up visitor spending for each type of visitor (with visitors divided up on the basis of the accommodation they used) but would have simply provided an estimate of the total amount spent. Neither the BHTS nor the IPS provided sufficient information about the division of spending between different types of business required for the analysis of the economic impacts of visitor spending. This has continued to be the case, upto 1986, since the introduction of the BTS.

Thirdly, the data on spending in each of the surveys covered the whole of the trip and not purely the spending that took place within host areas. Thus the relevance of at least part of the estimated amounts spent can be questioned.

Fourthly, none of the data sets, and in particular the BHTS and BTS, provided information about day visitors and their spending. It was not until 1987 that an annual survey of day visitors, the Leisure Visits Survey (Taylor Nelson and Associates), was first undertaken. Thus a large number of the visitors to the areas being considered were not covered by the national data sources.

Overall, therefore, the national data sets on tourism were not applicable for use in the studies which have generally been concerned with small areas. There have, however, been two exceptions.

The first exception was the study of Edinburgh (Vaughan, 1977a) which used data on the number of visitors from the BHTS and IPS as part of the weighting procedure. Edinburgh, like London, can be considered to be atypical given its major role within Great Britain

as a tourist destination. However, even for Edinburgh it was necessary to mount a special survey to provide the data on visitor spending.

The second exception was the study of "Tourism in the Economy of Scotland" (Vaughan et al, 1987). The nature of the study and the funding available resulted in the national data sources being used in conjunction with other data on visitor spending.

Since 1985 and the introduction of the BTS improvements have been made to the national surveys including the introduction of a survey of day visits. Even with the subsequent improvements to the data sets on domestic tourists, visitors from overseas and day visitors the data sets are unlikely to be of use in studies of small areas. To use them would require the commissioning of special analyses and the results would still be open to question in respect of relevance, coverage and accuracy. The relevance of the 'improved' national data sets is evaluated in Chapter Ten.

APPROACHES TO MEASUREMENT

In Chapter Two a series of criteria were set out by which measurement of the economic impact of visitor spending might be judged. This third part of this chapter evaluates the different ways by which visitor spending might be estimated using those criteria (relevance, coverage, accuracy and context sensitivity) within the framework of the data and policy requirements implicit in the above description of modelling visitor spending and the inadequacy of the national data sets.

According to Archer (1973a) data on visitor spending can be obtained in two basic ways: the macro and the micro method.

The macro method need not be described in depth in this context because it fails the context criteria. As indicated by Archer (1973a, p19), it has not really been a viable method in Great Britain because there are no statistics comparable to those in the United States which provide information on turnover figures for different types of business at a community (State or County in the USA) level. In simple terms the methodology in the United States has concentrated on defining the proportion of turnover attributable to tourists. This has been accomplished either through surveys of businesses or by simple assumption.

The micro method involves the building up of an overall picture of visitor spending either from interviewing a sample of tourist-related establishments or by interviewing tourists.

The first micro approach is to find out from a sample of tourist-related businesses how much of their turnover is a result of visitor spending and then 'grossing' up the results to provide an overall estimate of how much visitors spend in each type of business. Such a method has a number of important limitations in respect of the criteria for judging economic impact methods set out in Chapter Two. The method has problems in relation to coverage and accuracy.

The problem of coverage is the selection of the businesses to be included in the survey. There would need to be an arbitrary assessment of which businesses are tourist-related and which are not when specifying

the initial sampling frame. (The problems in this are returned to in Chapter Six).

The problem of accuracy is even greater. Most owners/managers of the businesses involved will not know, or have any simple means of assessing, the proportion of their sales accounted for by residents and the proportion accounted for by visitors. Without a great deal of work either by the business or the researcher the relevant proportions can only, at best, be educated guesses.

Research on the economic impact of tourism in the United Kingdom has, because of the difficulties involved in the other approaches, been based on interviewing tourists and constructing estimates of the levels and patterns of spending by different types of tourist. However, even then, there have been a range of approaches available/adopted in order to obtain the information required.

The first broad division is between conducting a survey at the home residences of visitors after they have completed their visit or conducting a survey during the visit or as the visitor leaves the host area concerned.

A home interview survey presents no methodological problems as it is possible to obtain a representative sample of households from either the electoral roll or the valuation roll and the Population Census enables the sample to be checked for any particular biases. The methodology of such surveys is well documented and such a methodology is adopted for the British Tourism Survey (National Opinion Polls) and the Leisure Visits Survey (Taylor Nelson and Associates).

Household surveys, however, as detailed above in the context of major national surveys, can run into considerable problems in providing information about small areas which reduces their usefulness. Household surveys by their nature will only provide small samples for any given small host area. The randomness of the sampling procedure means that they are not cost-effective. Thus, for example, if a household survey of spending by visitors to Exmoor was being conducted throughout Great Britain only a small number of the people contacted are likely to have visited Exmoor. Of the population of Greater Manchester for instance only a limited number (comprising a very small proportion of the population) will have visited Exmoor. Thus household surveys are likely to be very cost ineffective in that they will involve contacting a very large number of people in order to find a relatively small number in any area.

In addition, household based surveys may suffer from major problems in respect of recall. By the very nature of the exercise a household survey is likely to take place sometime after the visit to the host area. While it is better to collect the details of spending after the completion of a visit, so that the data are reliable in the sense of coverage, if the interviewing is delayed too long inaccuracies may arise which reduce considerably the usefulness of the information. This has not been tested in the Great Britain context but Mak (1977) found that visitors who completed a questionnaire on their return home under-estimated their spending compared to those who completed 'diaries' during their stay.

Finally, household surveys may run into other problems. Firstly, those people who travel most are least likely to be at home to be interviewed. Secondly, the method

misses those people who are not residents of the area in which the sampling is being undertaken. The extreme example of this is that a household survey of the population of Great Britain will not provide any information about visitors from overseas.

Field surveys, those conducted within or at the boundary to the area under investigation, pose considerable problems in acquiring a representative sample in that there is usually no knowledge of the total population of tourists from which a sample can be drawn. As a result, for example, it is not possible to follow the usual sample design steps in respect of setting sample size. Despite this problem, and the other the methodological problems which are explored in this chapter, field surveys have been the preferred way of obtaining information about visitors, firstly, because they are far more cost-effective than the alternative of a household survey, and secondly, because they provide relatively fresh first hand information.

The main debate has been over the form the field survey should take. Field surveys can take two broad forms: surveys at selected locations within the area, referred to as non-cordon surveys, and surveys at the exits to the area, referred to as cordon surveys. Within these two broad types there are a number of variations as detailed in the next part of this chapter including combinations of both types of survey.

As will be indicated later different researchers have different views of the relative strengths and weaknesses of the alternative forms. The studies on which this chapter is based, however, have adopted both cordon and non-cordon designs for reasons which will be outlined in the following discussion of survey

design which begins the examination of the specific methodological problems which have had to be solved in order to provide the data required for a study of the economic impact of visitor spending.

OBTAINING A REPRESENTATIVE SAMPLE

Once the decision is made to undertake interviews with tourists during or at the end of their visit to the host area the choice narrows down to a cordon or non-cordon survey. The cordon and the non-cordon survey methods have been devised as the next best solutions when conventional survey methodology based on households, or known population characteristics, cannot be used because they would be very cost-ineffective.

An Evaluation of The Alternative Survey Designs

In a 'cordon' survey visitors are interviewed as they leave the specified area. Thus interviewing takes place at the roadside, in trains, on buses or at airports. This type of survey, therefore, is based on, categorising visitors initially by the type of transport they use.

Cordon surveys are subject to practical difficulties, such as stopping the traffic to interview car-borne visitors, which make the alternative of interviews conducted at selected locations in the area, but not at the boundary, attractive. Thus in non-cordon surveys within the host area interviews are conducted in the streets, at visitor attractions or, less commonly, at a sample of the types of accommodation used by visitors.

In most surveys the choice between these approaches (cordon and non-cordon surveys) has been dictated more by cost, time and other practical considerations than by the relative merits of the different approaches. For example, in the Edinburgh studies (Vaughan, 1977a and 1977b) a combination of cordon and non-cordon surveys was adopted. While it was possible to undertake a cordon in respect of rail, bus, coach and air travel the problems involved in securing police co-operation meant that those travelling by car were contacted through a non-cordon survey conducted at selected locations within Edinburgh. For the Exmoor study a cordon design was adopted as police co-operation in stopping traffic was forthcoming and there were only a very limited number of roads which visitors could use to leave the area. In addition the Exmoor study only had to cover travellers by road as road was the only means of access to/exit from Exmoor National Park. The composition of the road traffic also meant that the cordon only had a small number of bus and coach traffic with which to deal. Finally the Merseyside study adopted the non-cordon approach. In the Merseyside study undertaking a cordon survey was ruled out because of the practical considerations of time. Given the commissioning date of the study, 31st July 1985, the relative merits of cordon surveys verses non-cordon surveys were not relevant as it would not have been possible to secure the co-operation of the Police, British Rail, the National Bus Company, the Airport Authority and the various private coach companies in the time available. Even if permission had been secured the logistical problems involved, for example obtaining the equipment necessary to conduct a roadside survey, could not have been solved and a team of interviewers in the field in time to catch the summer visitors.

While each of the methods have been adopted for the studies on which this thesis is based, the cordon survey is, in general terms, 'better' in that the selection of the sample can be rigorously controlled and the visit to the area is likely to be ending so that all activities and spending will have occurred. On the other hand non-cordon surveys are generally easier to set up and are cheaper as they do not involve roadside interviews and are conducted in areas to which the majority of visitors gravitate. However, there are two specific reasons why a cordon survey is preferable in the context of a study of visitor spending.

Firstly, there is the potential influence of length of stay on the results. The longer the length of stay by the visitor in the area the greater the chance of inclusion in a non-cordon survey. This may introduce a bias into the results of an expenditure survey if longer stay visitors have different spending characteristics than those staying for shorter periods. The results of the Edinburgh and Exmoor studies confirmed this potential bias in that they showed that longer stay visitors spend less per day.

To adjust for this bias that, for example, people staying for seven nights in the area have seven times the probability of being interviewed as people staying only one night, non-cordon survey data requires an adjustment which is not required for cordon survey designs. The analysis of the data requires the weighting of each interview by the reciprocal of the length of stay. Length of stay only becomes a problem in cordon surveys if people are regularly leaving the area on short trips and are therefore likely to be caught in the cordon on more than one occasion.

Secondly, the location of the interview site in non-cordon surveys can introduce a bias into the results. Certain places will attract the majority of visitors and therefore enable interviewing to be conducted over shorter periods or more efficiently. However, certain types of visitor may not, for personal reasons, visit these places. They would, therefore, be excluded and the results may be affected. In contrast in cordon surveys, because the survey is conducted at the end of the visit and at the boundary of the area, all visitors are given an equal chance of appearing in the sample.

Comparisons of the Main Elements in Undertaking Surveys Using Cordon and Non-Cordon Designs

Regardless of whether the survey of visitor spending adopts a cordon or a non-cordon design ensuring relevant and 'accurate' results requires careful pre-planning. This section of the chapter examines each of the decisions that have to be made drawing examples mainly from the Exmoor study (a cordon survey) and the Merseyside Study (a non-cordon survey). When making these decisions the reduction of three types of what can loosely be called 'error' has guided the choices made.

The first error is not an error in the accepted sense of a mistake but is the difference between the result obtained and the result that would have been obtained had a complete census been undertaken. The size of this error is influenced by the size of the sample. However simply increasing sample size will not bring about the same proportional reduction in the error (a doubling of the sample size will only reduce the level of error by one quarter). As a result the survey designs have had to balance the 'accuracy' of the results against the cost of the interviews.

The second error is bias. This can arise in a number of different ways the net result of which is misleading data. Bias can arise, for example, through the choice of sampling locations and incorrect sampling procedures.

The final error is simple human error. The solution is simple checking of detail both during the survey and during the course of the analysis.

In the surveys on which this thesis is based the objective has been to secure results from as small a number of interviews as possible consistent with 'reasonable' accuracy through the minimising of error sources. This has been guided by the knowledge that "the sampling errors on any rational design involving at least a moderate sample size are likely to be substantially smaller than non-sampling errors" (Casely and Lury, 1981, p3). Thus in the surveys of visitors most attention has been paid to the non-sampling errors, particularly eliminating bias, with sample error being taken account of by setting minimum sample sizes of between 50 and 100 for different types of visitor.

The first question to be tackled in both survey designs was: when should the survey be undertaken given that visitor patterns may differ dependent on the time of year, time of week and time of day?

Both the Exmoor and Merseyside studies were designed to discover the volume and distribution of different types of visitor to the area concerned and to examine the spending patterns of these visitors. Not surprisingly, therefore, both studies had broadly similar structures.

Firstly, as there were likely to be different types of visitor at different times of the year the first part of the answer to the first question was to undertake two survey periods. A summer period to sample peak season visitor and an autumn period to sample off-season visitors.

Secondly, both surveys tried to ensure that bias in the timing of interviews, both in terms of the time of the day and the stage of the visit, was kept to a minimum. If there is a bias in the interviewing towards a particular time or stage the results may be influenced. Each of the survey designs were likely to suffer from different types of bias.

For example, a cordon survey has the merit of catching people at the completion of their trip. However, the period of recall of spending asked for may coincide with the times of highest spending and therefore artificially inflate the results. As a result the Exmoor data, for example, undoubtedly do contain an element of bias, especially in that the questionnaire dealt only with spending in the previous 24 hours, but the extent of this bias remains unknown.

The Merseyside study, on the other hand, was likely to suffer from another bias. In this case the problem was day visitors. Day trippers seemed likely to form a large part of the visitor population of Merseyside. As a result in order to ensure relevant data (by not interviewing day visitors until they had completed the major proportion of their visit) a two stage interview as described later was adopted. Day visitors could not progress beyond a short (2 minute) factual interview on the type of visit, where they came from and so on until after 3pm. This has not been common practice in, for example, other non-cordon visitor surveys which

therefore may be subject to bias in the spending results produced for day visitors: the bias resulting in under-estimates of spending.

The second question in both survey designs is: where should the interviews be undertaken? The answer, however, is far more difficult and important for a non-cordon survey.

In the survey of visitors to Exmoor the cordon needed to conform as closely as possible to the boundary of the National Park. As there were no other means of entering the National Park other than by road this meant identifying the roads leaving the area. Ideally the interview points should have been located at the points where the roads crossed the boundary. However, safety considerations dictated that in certain cases the interview location was some distance from the boundary. The positions of the interview points were selected in conjunction with the Police and are detailed on Figure 4.1.

For the survey of Merseyside answering this question was more difficult. The interviewing points selected could introduce bias into the results. Thus there was a need to select a mixture of locations where it could be expected to obtain a cross-section of visitors but which would not significantly affect the results. Therefore some sites originally suggested by Merseyside County Council were ruled out because they would have introduced a bias into the sample obtained. For example conducting interviews in Lime Street Station would have introduced a bias towards visitors travelling by train. A total of 27 sites were used (Table 4.1) which were a mixture of street locations and visitor attractions. Even then it was not possible to remove all bias. As there is no other data against which to check the data

FIGURE 4.1: EXMOOR NATIONAL PARK

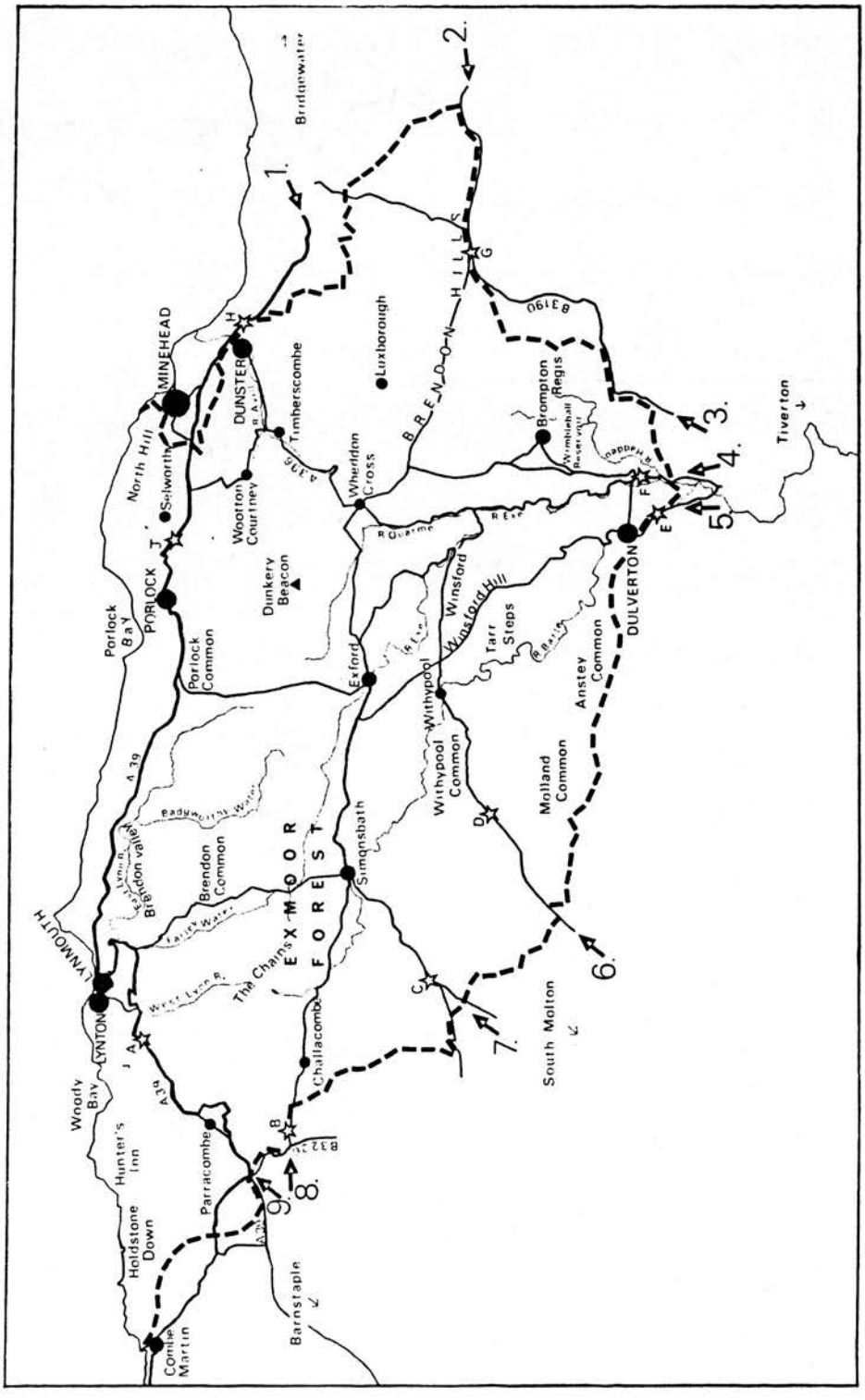


TABLE 4.1: Number of Interviews - Summer Fieldwork.

Location	Extended Interview		Short Interview Only
	Stayers	Day Trip	
LIVERPOOL:			
Maritime Museum	20	11	90
Cavern Shopping Centre	8	2	30
Speke Hall	5	1	12
Anglican Cathedral	8	2	30
Albert Dock Village	20	10	107
Beatle City	31	12	101
Croxteth Hall	13	9	30
Roman Catholic Cathedral	8	1	28
Festival Gardens	3	4	52
Tourist Information Centre	26	3	125
County Museum	22	7	82
Empire Theatre	6	0	22
Mersey Ferries and Pier Head	3	2	28
Britannia Adelphi Hotel	4	0	8
Walker Art Gallery	2	1	9
OUTSIDE LIVERPOOL:			
Southport Theatre/ Floral Hall	14	15	130
Knowsley Safari Park	5	10	153
Southport Information Centre	4	1	32
Southport Pleasureland	22	10	158
Lady Lever Art Gallery	3	3	12
Pilkington Glass Museum	5	2	12
Southport Arts Centre	4	1	44
Southport Zoo	8	10	67
Floral Pavilion, New Brighton	5	4	40
Royal Clifton Hotel, Southport	31	11	78
Atkinson Art Gallery, Southport	3	1	17
Prescot Clock and Watch Museum	4	0	1
TOTAL	287	133	1498

the extent of the remaining bias remains unknown.

The third question was: who should be interviewed? This can be subdivided into two further questions. Firstly, who should be included in the survey? Secondly, how will the person answering the questionnaire be selected?

In terms of the first sub-question it is necessary to look at the objectives of the study. Thus in broad terms (based on a variety of sources) a visitor can be defined to be:

> any person visiting a country or area, other than that in which he has his usual place of residence, for any reason other than following an occupation remunerated from within the country or area visited.

and within such a definition distinct types of visitor can be distinguished:

a) the tourist who is a temporary visitor staying at least 24 hours in the country or area visited and whose purpose of journey could be classified as leisure, business, family reasons and meetings.

and

b) the excursionist (more commonly classified as a day visitor) who is a temporary visitor staying for less than 24 hours in the country or area visited and whose purpose of journey can be classified in a the same way as for the tourist.

However, in the context of a study of pleasure visitors it would be misleading to include the data from business visitors. Thus, as is demonstrated in the next part of this chapter on questionnaire design, defining who is eligible is an extremely important part of the survey if the results are to be useful. The Exmoor survey, therefore, adopted a definition based on pleasure. For reasons to do with the commissioning bodies a small number of other types of visitor were allowed to complete an interview during the Merseyside study.

The answer to the second sub question in the Exmoor study was different to nearly all other studies. In terms of visitor spending surveys the Exmoor study is unusual in that it involved a roadside interview. The only other study to incorporate roadside interviewing was the study of Greater Tayside (TRRU, 1975). The procedure adopted involved the cordoning off of the road so that traffic was slowed down into a single lane prior to the interview points. Traffic was then directed by the Police into the interview points on a 'next vehicle' basis. The interview points could cope with more than one vehicle and therefore the selection was done in batches as the interview points became empty.

In addition the second part of this question relates to the problem of who provides the answers during the interview. Given the nature of the visitor groups, and of the questions, there may be a tendency for the head of the group to provide the answers. Simply interviewing the driver could introduce bias as there may be a tendency for the male to drive. These may result in some expenditures being unrecorded. Generally the procedure was to adopt the birthday rule (the person with the next birthday answers the questions)

for the filter questionnaire and the questions about accommodation and activities and so on and to encourage other members of the party to contribute information about spending.

For the Merseyside study, the answer to the second sub-question was less complex. The interviewer was instructed to adopt the 'next to pass' method. In the Merseyside study interviewers were instructed to interview the next eligible person to pass by following the completion of an interview or the completion of the break/counting periods.

The Exmoor Cordon only involved a roadside survey. In other cordon surveys there has also been the need to undertake surveys of those travelling by bus, coach, rail and air. In the Edinburgh survey, for example, the following procedures were used in respect of mounting a cordon of each of these types of travel.

The cordon of buses and trains were essentially similar in that interviewers boarded a random selection of buses and trains as they left Edinburgh. The random selection was intended to give a cross section of times and days of the week during the survey period. Once on the buses and trains the interviewers were given a set pattern to follow based on the layout of the seats in order to select the respondents. Generally interviewers took one journey per day.

The survey of coach travellers was accomplished by interviewers boarding coaches at their pick up points. Permission to board the coaches was obtained from the coach companies before the survey period. The selection of coaches was based on a compilation of coach traffic movements derived from published brochures/timetables. Again selection of respondents on the coaches was based

on the layout of the seats.

The final survey was conducted at Edinburgh Airport. The survey was conducted on a selection of days which would give a cross section of the days of the week. At the airport a random selection of passengers were approached as they 'checked in'.

Such cordon surveys of travellers by bus, rail, coach and air may be subject to bias, although the extent will remain unknown. The likely biases are discussed later in this chapter.

The fourth question was: how can wasteful interviewing be avoided and the most efficient use be made of survey personnel? The question in part relates to obtaining adequate data on the spending by sub-groups of interest without the costs and problems of excessive sample sizes being obtained in the pursuit of minority groups and also partly to the scope of the survey and the use of weighting and loading procedures as detailed below.

The Exmoor study tried to be more cost-effective by incorporating a sifting procedure into the personal interviews. A short interview was used to determine the nature of the traffic and the eligibility for inclusion in the survey. An additional extended interview obtained details of activities undertaken and of the spending of recreational and holiday visitors.

This sifting approach was an extension of the procedure adopted during the earlier survey, by the author of this thesis, of the Edinburgh Festival. The Edinburgh Festival study had the specific problem that only spending by visitors who were attending festival events was of interest but there were many other visitors in Edinburgh at the same time. To meet the overall

objectives of the study, and of the parallel study of tourism in Edinburgh, it was necessary to collect general information about these other visitors. Thus the Festival study introduced short and extended questionnaires for the first time in an economic impact study: a practice which has since been adopted in a number of other more general surveys of tourism, for example, "Visitors to the Scottish Islands" (TRRU, 1979). A copy of the short questionnaire used in the festival study and a copy the questionnaire used in the Exmoor study are contained in the appendix to this chapter.

The differentiation of this approach is that the filter section of the Exmoor questionnaire, for example, was not used simply to filter out people about whom all that was known was that they were not eligible which is the standard use of filter sections at the beginning of questionnaire interviews. The filter was used to collect important data about origin, party size, transport used, accommodation, length of stay and so on.

The Merseyside study adopted a similar approach, although as stated, it is not common in, for example, the surveys mounted by various market research agencies when conducting surveys of tourist areas for the English Tourist Board, for example the visitor survey of South East Dorset conducted by National Opinion Polls. The interview procedure in the Merseyside study consisted of a contact sheet which filtered out residents of Merseyside, a short questionnaire, which acted as a filter for different types of visitor and provided a range of information as detailed in the next section, and an extended questionnaire, also as detailed in the next section.

The final question was: what other data are required?

There were two sets of data required in both surveys in order to adjust the data obtained through interviews with visitors for the reasons outlined below. These additional data allowed for procedures, generally referred to as weighting and loading, to be undertaken.

The first set of additional data is on the numbers involved at each interview point. Sample surveys provide data about individual respondents or groups who are representative of those from which they are drawn. By the nature of the exercise some survey points will be subject to a larger number of visitors than others. Thus it is necessary to collect data to adjust for the variation in numbers between points. This enables a procedure known as weighting.

In addition the survey design needs to incorporate a means of adjusting the data so that results are produced relating to all trips and not simply to the survey sample. Depending on the type of survey this data can be derived from road traffic counts, rail/bus/coach/air passenger statistics, accommodation occupancy statistics, the number of visits to tourist attractions or specific types of tourist accommodation (not occupancy statistics) or, if they are available, estimates from other survey sources. This adjustment is called loading. Each type of loading data and its application is subject to problems which are discussed later in this chapter.

In the Exmoor study weighting was necessary for two reasons. In common with all surveys there was the need to weight to counteract different levels of traffic at each interview point. In addition, there was a second reason in that there was also the need to adjust the

data because, as it would have been very costly to man every interview point on every day of the survey period in that certain roads were very lightly used, the interviewing was only conducted continuously at three of the sites (A, J and E) and on a rota basis at the other sites.

The data necessary for weighting and loading the Exmoor data were obtained from traffic counts on the major roads and at the interview locations. This, plus in other areas information about the number of people using other types of transport such as rail passenger numbers, is the method generally adopted with cordon surveys.

The traffic counts were obtained using a combination of automatic traffic counters and visual observations. Automatic traffic counters are recording devices, which enumerate the number of axles passing over a metal strip or a tube. These devices are decoded to convert the number of axles into vehicles. In the case of Exmoor this conversion was based on observational records of the composition of vehicles passing the interview locations. These records were not kept continuously but were undertaken at selected times during the day (5 minutes in every hour). The subsequent conversion of the vehicle numbers into visitor numbers was based on the composition of the traffic as recorded in the short interview.

In the Merseyside study the analysis of the short questionnaire underwent a three-stage weighting procedure. It was firstly weighted by individual location, in line with the flow of visitors to Merseyside at each site, as derived from the counts. Secondly, the data was weighted by the number of nights spent in Merseyside (Question 10 in the Merseyside

short questionnaire which is contained in the appendix to this chapter) by applying the formula 1/nights plus 1 (thus those staying no nights would have a weight of one whereas those staying one night would have a weight of 0.5). Finally, the data was projected back to the actual number of short questionnaires. For the analysis of the extended interview (also contained in the appendix to this chapter) the results from the weighted short questionnaire were used. Thus the number of interviews with day visitors were weighted to be in proportion to the number of visitors who stayed overnight.

The loading of the Merseyside data was based on a procedure outlined later in this chapter (Estimating Visitor Numbers). Essentially it involved combining information about the number of visitor nights at a holiday camp with information about hotel occupancy and information about the relative levels of different types of visitor as found in the survey of visitors.

DESIGNING AND ADMINISTERING THE QUESTIONNAIRE

The second major methodological problem area concerns the method of obtaining and recording the data provided by visitors. Research on the economic impact of tourism in the United Kingdom has been based on interviewing tourists. As a result it has involved decisions on the style and content of questionnaires.

The first decision, in relation to questionnaire(s), is whether they should be administered by an interviewer or be self-completed by the visitor. The choice between the two types of questionnaire is not clear cut and as a result some surveys have adopted the

self-completion approach while others have adopted the personal approach. However, the personal approach is, perhaps, more appropriate and was adopted for both the Exmoor and Merseyside studies (and for the Edinburgh studies earlier) for three reasons.

The first reason was the need to establish 'rapport' and so partially guard against the 'lie' factor or the inclination of the respondent to answer questions in a less than complete way. This may be purposeful but more likely will be accidental in that some items may not be considered 'holiday' spending because they are bought on a day-to-day basis regardless of whether on holiday or at home.

The second reason was a need to prompt/probe. Very few tourists will bother to write detailed accounts of their spending in response to a self-completed questionnaire and, as indicated, certain items may be omitted.

The final reason was the need to alter the order of prompts so that the order did not become significant in the overall results. People's attention to any given question is likely to decrease. As a result more consideration is likely to be given to items that come earlier in a list.

The second decision in the design of the questionnaire is on the balance between including as many questions as possible, distinguishing between the types of spending and where and when they occurred, and losing the co-operation of the respondent. Basically the surveys need to obtain three types of information: a description of the visit, a description of the visitor, and finally, a description of the spending.

It is the latter in which the balance between the quality of data and claims on the time of the respondent is most crucial. There is a need to ensure that all aspects of spending are covered and none omitted as a result of unconscious filtering by the respondent or through poor recall.

The third decision is on the length of the period for which spending information is required. Surveys of the spending by visitors have adopted various recall periods from 24 hours to whole visit. While the longer the period specified the more representative is the information derived so too is the chance that smaller items, or those which occur regularly regardless of whether at home or away, will be omitted. In addition asking for information for the whole trip involves the respondent doing mental calculations to provide the required aggregate answers. In both the case of the Exmoor study and the Merseyside study, the previous 24 hours was chosen as the recall period, which is substantially shorter than was the case in the earlier studies in Edinburgh (Vaughan, 1977a and 1977b) which collected information on spending which covered the previous three days.

As was indicated earlier this 24 hour recall period undoubtedly introduced some bias into the Exmoor results, the extent of which is unknown. This potential bias is one of the respondents supplying atypical spending data because the previous 24 hours were when they bought their souvenirs and gifts. Given the results produced (see Table 4.5 later in this chapter), however, it is unlikely that the bias was significant as the proportion of spending on such goods was not substantially different from that found in other rural areas.

The fourth decision is on the layout of the questionnaire. In general the layouts followed accepted practices of locating the more difficult and more sensitive questions towards the end in order to establish rapport. In addition the questionnaires contained as many prompts as possible in order to help the visitor remember otherwise forgotten items of spending.

Given the objectives of the Exmoor Visitor Survey, and the decisions made as given above, the questionnaire used covered more information than that necessary for a survey of visitor spending. The questionnaire is reproduced in the appendix to this chapter. The parts reflect the two stage approach:

a) a short filter page covering the basic information about the visit, and

b) a longer questionnaire covering visitor spending.

As can be seen the short filter page adopted a closed format with the amount of information to be transcribed by the interviewer kept to a minimum. The columns allowed the interviewer to have five attempts to find an 'eligible' respondent or to adjust the rate of conversion of short into extended interviews depending on the frequency of use of the route by visitors. In addition, the use of this filter page allowed quotas to be set for different types of visitor in respect of progression onto the extended questionnaire.

The extended questionnaire covered aspects of the visit including spending and the characteristics of the visitor such as social class. As can be seen from the copy of the questionnaire reproduced in the appendix

to this chapter the questions on spending were based on a 24 hour period extending back from the time of the interview. The questions were very detailed in that they asked for the type of business in which the visitor spent money, the location of the business and the amount spent. Space was provided to allow for visitors having made similar purchases at different times and places. In addition most of the questions had business types pre-coded to allow for quick completion of the form and where necessary a list of prompts relating to the types of purchases that may have been made. This was an improvement on the earlier questionnaire used in Edinburgh, a copy of which is included in the appendix to this chapter, as it left less to chance and to the interviewers. In addition it reduced the amount the interviewers had to write and therefore the time the interview took.

There were two broad divisions in the questionnaires used on Merseyside. There was a short questionnaire aimed at establishing the basic market profile of visitors to Merseyside and an extended questionnaire which established in more detail the characteristics of the visitor and the visit. Copies of both questionnaires are contained in the appendix to this chapter. It should be noted, however, that there were different extended questionnaires depending on the type of visitor and only the extended questionnaire for staying visitors is included.

The problem of time was a key consideration in the design of the Merseyside questionnaire. It had a bearing not only on the use of a short questionnaire but also on the extent of the questioning possible on spending. In the earlier discussion it was indicated that the visitor should be given as many prompts as possible in order to aid recall. However, with all the

other information required for the development of a strategy, the visitor spending information questions used were more condensed, as shown in the relevant part of the questionnaire, although still guiding the visitor through the elements of visitor spending rather than simply leaving the visitor to remember all the ways in which money had been spent. As was the case with Exmoor the data only covered the last 24 hours. This time period was likely to increase the accuracy of the recall and shorten the time involved as the spending would be fresher in the respondents mind.

ESTIMATING VISITOR NUMBERS

The third major methodological problem is that, as stated previously, the surveys are generally conducted in areas for which no information, or very little, is available. This is true not only of information about the pattern of visitors and of their activities but also of the actual number of visitors. The studies, therefore, have also required the total number of visitor nights to be calculated. This can be accomplished in different ways, dependent on the type of study. The three methods are estimates based on transport volumes, accommodation volumes and, less commonly, the levels of use of visitor attractions. Two detailed examples are given below in respect of Exmoor and Merseyside.

Finding the total number of visitors to Exmoor during the full period under consideration, April to October inclusive, was essentially a simple procedure as described below (the numbers given are hypothetical examples). The procedure was based on traffic count data.

Estimating the number started with a count of the vehicles derived from the traffic counters (20,000). Then on the basis of manually recorded observations undertaken during the survey period these vehicles were divided into non-recreational traffic (30 per cent) and recreational traffic (70 per cent). On the basis of the short filter page of the questionnaire the recreational traffic was divided into holiday makers with accommodation on Exmoor (40 per cent or 5,600 groups), holiday makers on a day trip to Exmoor (35 per cent or 4,900 groups) and people on a day visit from home (25 per cent or 3,500 groups). For each of these types of visitor an average (mean) group size was calculated from the questionnaire data (2.5, 3 and 3.5 respectively). The result for the total number of tourists was calculated by multiplying the mean group size by the number of groups (the answer for holiday visitors accommodated on Exmoor being 14,000 visitors). This was then multiplied by the average length of stay (five nights) to give the total number of visitor nights for visitors accommodated on Exmoor (70,000).

The Merseyside study adopted a different method. This method was, again, essentially a simple procedure, based on a known type of visitor and consisting of four stages.

The first stage was to find a base figure for the calculation of nights spent in Merseyside by summer visitors. For this study, accurate figures were known for a holiday camp. In other studies hotel occupancy statistics and known bedspace numbers have fulfilled the same role.

The second stage was to determine from the visitor survey the relative proportions between visitor nights spent in other types of accommodation and the nights

spent in the known type of accommodation. The numerical relationships, for example 1:5, were used to calculate the total number of nights spent in Merseyside in each of the types of accommodation.

The third stage was to calculate the off-season (October to March inclusive) numbers. These were calculated using hotel bed occupancy statistics as the base supplemented by information derived from the business survey of hotels about the proportion of leisure as opposed to business visitor nights. To derive the other types of accommodation the second stage was repeated based on the off-season survey.

The fourth stage was to calculate the number of day visitors. This was accomplished simply on the basis of the relative proportions of day visitors to overnight visitors as found in the visitor surveys.

AN EVALUATION OF THE DATA

When evaluating survey designs and data it is as well to be aware that there is no right answer. Each researcher tends to allocate different weights to different criteria. The above examination of the Exmoor study and the Merseyside study, therefore, represents the judgements of the author of the thesis in the context of those particular studies.

However, other researchers have shown diametrically opposed views to one another in the context of similar choices, for example, in respect of self-completed questionnaires verses face to face interviews and in respect of cordon verses non-cordon survey designs.

In terms of the method of recording the data (self completed questionnaires verses face to face interviews) Archer (1973a, p34) states that "their [the visitors] estimates are likely to be far more correct if they fill in a questionnaire in their own time than if they are required to make an on the spot guess". On the other hand other researchers have noted that "in addition to generally higher response rates, the face to face interview offers the possibility of verifying or clarifying expenses" (Pearce, 1981, p244). No study has evaluated the differences in the results produced based on a survey conducted in Great Britain. However, as indicated earlier in this chapter, Mak (1977) found that compared with a 'diary approach' visitors who completed a questionnaire on their return home underestimated their spending.

Both studies discussed above adopted the personal interview approach. This personal interview approach, coupled with a sifting procedure, was adopted for a number of reasons. Firstly, it allowed for the establishment of a rapport with the respondent leading to better quality data both in completion of the questionnaire and the appropriateness of the answers supplied. Secondly, a full personal interview was more likely to avoid the ambiguities and non-response that may occur in self-completed questionnaires. Thirdly, it was less likely to be subject to self selecting samples because selection of the respondent can be defined and controlled. Fourthly, survey time could be more efficiently used. The ratio between the short and the extended elements of the interviewing could be adjusted to suit the pressure on the interview point. Fifthly, the approach allowed for sufficiently large samples in the short questionnaire to reduce the potential 'standard error' on the basic information required for policy purposes while providing sufficiently large

samples in all groups of interest in relation to the extended questionnaire. This was possible because of the reduction in the likely excessive numbers of extended interviews with those of the most frequent type.

As indicated, differences also occur in respect of the locations at which interviewing is best conducted. Henderson, for example, suggests that tourists "are more inclined to co-operate....while they are travelling than when involved in other activities" (TRRU, 1975, p166) while Archer states that stopping vehicles "catches tourists in their least amenable attitude of mind" (1973a, p34).

Thus the evaluation of survey design and questionnaire design can not be clear cut. In the two surveys considered the design of the survey and the questionnaire, while having common elements, were radically different as a result of the different contexts of the studies as a whole. Regardless of the design of the survey and of the questionnaire the resulting data are still subject to a number of problems which have to be recognised. The extent of these problems differs between surveys.

The first of these problems relates to the use of ´nights´ as the time span by which spending is weighted in most studies. It is possible for a person to be in an area for eight whole days but only seven nights. Thus the analysis is not quite what it seems. The analysis potentially underestimates the total. This occurs because visitors are implicitly asked "how much did you spend yesterday?" and this is multiplied by the average length of stay.

The second problem relates to the calculation of the total number of visits, visitors and visit nights. As indicated above this can be accomplished in three different ways, if using other data such as national surveys of tourism (as was done in the study of Edinburgh in 1976) is excluded. Each of these methods has strengths and weaknesses.

Transport based studies are based on counts of visitor departures by different modes of transport. Although there may be problems with the other types of transport the main problems arise in respect of road transport. The most significant problem in transport based studies is the use of vehicle occupancy rates. An apparently minor difference in these will result in a quite significant difference in the number of car travellers. The implicit assumption is that car occupancy rates observed at one time of the year hold good at other times of the year. The car occupancy rate could differ from this for a number of reasons: a prime example of this being that the surveys tend to include school holidays and these are likely to significantly increase occupancy rates.

Accommodation based estimates also have their limitations. These limitations largely arise from there not being records of all types of accommodation and, in addition, there being the need in most studies to estimate the number of day visitors. As a result the approach has involved using the number derived for one type of accommodation in conjunction with information about the relative proportions of visitors derived from a sample survey. The main concerns with this relate to the 'accuracy' of the information about the base visitor and the 'accuracy' of the sample survey. The first concern on the accuracy of the base data particularly relates to those studies which use hotel

occupancy statistics as their base. These are also sample surveys which are prone to difficulties relating to accurate completion. The second concern is similar to the concern over car occupancy rates. The assumption in the estimates is that the relative levels of different visitor types are the same in the rest of the year as during the survey period(s).

The third method is less common and is based on the admission records of visitor attractions. Such a method has the problem of double counting of visitors and the problem, already detailed, of relying on a sample survey of visitors to determine the relative proportions of visitors.

The third problem area, in general, relates to spending on accommodation. There are three aspects. Firstly, there is the cost of accommodation on a 'packaged' holiday as this is unlikely to be known by the respondent. This was not a problem in the Exmoor study as package holidays did not feature. In studies where package holidays were a feature of the area, for example Edinburgh, the solution has been to ask for the name of the 'package' and then to approach the package operator for the relevant information. Secondly, there is the allocation of spending on food and drink at the accommodation. This, however, can be handled fairly simply by the wording of the question in relation to accommodation. Finally, some visitors stay at different types of accommodation during their visit. This was solved in the Exmoor study, and in the other studies, by allocating the visitor according to the main type of accommodation used.

The fourth general problem relates to the timing of the interview and the time period for which spending data is required. Again there are two aspects. Firstly,

there is an assumption that the visitor has spent all of the holiday in the area. This assumption is made when 'spending yesterday' or 'in the previous 24 hours' is multiplied by 'length of stay' or 'total nights'. Secondly, the interview may be conducted before the completion of the visit and if the question is of how much will be spent on the whole visit there is the problem of 'future spending'. This was not a problem in the study of Exmoor as the survey was conducted at the exit to the area and tended to co-incide with the end of the visit. It was a problem in the interviews with car travellers in the Edinburgh study and with all visitors in the Merseyside study. It was solved by always asking for information about spending that had already taken place. In addition in the Edinburgh study the sampling tried to obtain an equal spread of visitors according to the stage they had reached in their visit. In the Merseyside study there was the constraint that day visitors were not asked about their spending until after 3pm.

The fifth problem concerns bias. The cordon of travellers by bus, rail, coach and air in the Edinburgh survey may have introduced some bias into the results, although the extent remains unknown. The bus and rail surveys might have been subject to a bias arising because the surveys were, because of cost considerations, weighted towards morning departures. The morning is when most visitors were expected to leave Edinburgh. The coach survey may have been biased by the need to secure permission before interviewers could board the coaches. The airport survey may have been biased against those who arrived late. While the level of bias remains unknown it is not thought that it was significant.

Finally, there is the problem of what the average spending figures show. This might not seem a problem but in one survey conducted (confidentiality precludes naming the survey), but not conducted by the author of this thesis, the problems which can arise and which significantly affect the results can be observed. The problems relate, firstly, to defining what the average represents, and secondly, the difference between a household survey and a field survey in the treatment of data.

In respect of what the average spending figures measure there was a problem in terms of zero expenditures. The study concerned excluded zero expenditures from the calculation of average spending. Thus, although defined as average spending per person per night/day, the average was based on the number of times spending occurred rather than on the number of visitors or visitor nights/days. As a result the averages over-estimated spending by visitors.

The second error arose because of the difference between a household survey and a field survey. In the study concerned the spending details contained in a questionnaire for a group consisting of a husband and wife was divided by two before being included in the calculation of the averages. This was done to avoid double counting and would be standard procedure in a household survey as procedures in that type of survey may lead to both husband and wife being interviewed separately. The implications of this are relatively simple to demonstrate. Take a small village which during a survey period only has 2 visitors, a man and his wife, and between them they spend £50. Following the procedure adopted in the study the £50 would be divided by two to avoid double counting and then by two again to give an estimate of average spending per

person of £12.50. If, however, the two people had been separate, an unmarried couple or businessmen travelling together, the average would have been £25. There is generally nothing in the design of field surveys which would intentionally result in double counting although there may be in household surveys. In fact the size of the areas over which interviewing is conducted and the number of people who could be interviewed tend to reduce the possibility of double counting. What is of concern in this simple transference of household survey methodology was the inconsistent treatment of married couples (and their families) and 'separate' individuals. It could result in significant reductions of holiday visitor spending if the area and the type of facilities it offers are particularly attractive to families. The result could be translated into ill founded policies as many policies are based on promoting those types of visitor which spend most or have the greatest impact in terms of income and jobs.

An overall evaluation of field surveys, as discussed in this chapter, and for which this section reviewed the main 'caveats' on the results, is problematical. Firstly as indicated earlier different researchers have reached different conclusions about the appropriate procedures. Secondly, there is very little basis for verification of the results for the area under consideration. For most of the areas, as indicated earlier, the survey is the first comprehensive quantitative information produced. In a general sense all that can be done is to judge whether the results look reasonable by comparing with the results produced in other areas (with the limitation of all areas being 'unique') and with what is already known about the area under investigation. The likely 'accuracy' of the results is returned to in Chapter Eight.

THE METHODOLOGICAL ADVANCES IN THE VISITOR SURVEYS ON WHICH THIS THESIS IS BASED

Advances in knowledge can take place, as indicated in Chapter Two, in two ways. The first way is advances in the methodology. The second way is advances in knowledge about tourism. This section briefly draws together the main points to come out of this chapter in a review the methodological advances before the final section presents some illustrative results. These methodological advances are assessed in more detail in Chapter Eight.

While the actual type of field survey, and the size of the sample obtained, has been largely determined by the time and money available, and the ability to secure the co-operation of official bodies (the Police for example), developments have taken place in the methodology. These developments, as outlined in this chapter, have attempted to make the data collection cost effective and to reduce the potential bias in the data. While many of the developments in survey design were a response to the particular context, as stated earlier, the nature of the questions and the questionnaire show a developing line of thought.

The Edinburgh studies, as indicated earlier, came very early in the history of field surveys in Great Britain. Thus there was limited guidance outside the work by TRRU (Scottish Tourism and Recreation Study, 1974, and Greater Tayside, 1975) on how such surveys should be conducted. Not surprisingly, therefore, these studies were influential in the study of tourism in Edinburgh both in terms of the survey design and the questionnaire design.

In respect of the Festival Survey, however, they did not provide as much guidance. In particular, the specific need to obtain information about the pattern of visitors to Edinburgh in general, as well as the spending of people attending the festivals, brought about the practice of short and extended interviews.

For the Exmoor study the design of the questionnaire was altered as was the time period for which information was required. Thus the Exmoor questionnaire was designed to speed up the process of interviewing while still ensuring the relevance and content of the data. In particular the Exmoor study further developed the use of short and extended interviews and cut back on the length of the period for which information was collected to 24 hours. This reduction in the recall period reflected a judgement balancing the potential bias arising through taking spending over the last 24 hours as opposed to the bias arising over a longer period of recall through the omission or incorrect recall of spending and the time constraints on the questionnaire both in terms of the time involved in answering a questionnaire and the implicit effect on the number of interviews conducted.

The Merseyside study while adopting a different survey design, non-cordon instead of cordon, followed through many of the lessons learnt. The use of short and extended interviews and the 24 hour recall period for spending being the obvious lessons. Less obvious ones related, firstly, to reducing bias in respect of location, and secondly, the lessons on the timescale and the difficulties involved in both cordon and non-cordon designs which meant that interviewing began only 11 days after the study was commissioned.

SPENDING BY VISITORS TO EXMOOR NATIONAL PARK

The previous parts of this chapter have explained the nature of the information required about visitor spending, why specific studies are required for small areas, the reasons why specific approaches were adopted and the strengths and weaknesses of the approaches adopted. Thus the chapter has looked in detail at the methodology.

However, as stated earlier, advances occur both in the methodology and in knowledge about tourism, in this case knowledge about visitor spending. This final section of this chapter provides a brief resume of the results obtained in the Exmoor study as an illustration of the nature and range of results produced and to illustrate many of the points brought up earlier in the discussion of why certain procedures have been adopted or rejected in the visitor spending surveys. Thus if the previous parts of this chapter have been concerned with the specification of the data collection and analysis (as detailed in Chapter Two: relevance, coverage and accuracy) this part of the chapter deals implicitly with the relevance of the results and the information actually provided to policy makers.

The hypothesis on which the survey of visitor spending was based was that different types of visitor to Exmoor National Park in 1979 spent varying amounts of money on different items and in different locations. The variations in total visitor spending were governed by a number of factors including the total numbers of different types of visitor, their length of stay and certain key characteristics such as the accommodation they used and where they came from. These differences could form the basis for developing tourism policies

(the realism of such an approach is considered in Chapter Nine).

The most fundamental division of visitors in terms of spending was between those who stayed for at least one night in accommodation within Exmoor National Park and those who made day visits to the park either directly from home or as part of a holiday away from home. As would be expected, those visitors travelling by car who were accommodated overnight in the park spent more per average 24-hour period than those who did not, a pattern which was consistent for both British residents and visitors from overseas (Table 4.2).

Similarly, visitors to the National Park staying in serviced accommodation had higher average levels of per capita daily spending than those using self-catering accommodation which is less service intensive. Hotel visitors, spending on average £14.55 per person day, had the highest expenditure per day, followed by those accommodated in guesthouses and those staying in private bed and breakfast establishments. Not surprisingly, the expenditure by those staying in serviced accommodation was double that by visitors staying in caravans, tents and other forms of self-catering accommodation (Table 4.3).

Length of stay can also influence the daily level of spending by visitors (Table 4.3). As has already been indicated, the average daily expenditure of those who stayed in the park overnight was substantially greater than that of those who did not. However, for those who stayed in the park the average daily expenditure declined as the length of holiday increased.

Other factors that appeared to influence the average amount spent by visitors in a 24-hour period were the

TABLE 4.2: Average Daily Expenditure per Person - Type of Visit and Origin, 1979.

Type of Visit*	Origin of Visitor	
	United Kingdom	Overseas
	Average 24 hour expenditure per capita (£)	
Holiday accommodation on Exmoor	5.87	6.21
Holiday day trip to Exmoor	2.25	2.15
Day trip from home	1.05	0
Weighted average	3.78	4.52

* Car-borne.

TABLE 4.3: Average Daily Expenditure per Person, 1979 - Alternative Visitor Classifications.

Type of Visitor*	Spending Per 24 Hours
	Average 24 hour expenditure per capita (£)
Serviced Accommodation:	
Licensed hotel	14.55
Guest House	10.85
Public House/Inn	6.46
Private Bed & Breakfast	9.73
Farm Bed & Breakfast	6.31
Unserviced Accommodation:	
Static caravan	4.66
Touring caravan	4.43
Tent	3.24
Rented property	5.04
Farm cottage	1.72
Youth Hostel	5.86
Own property	2.29
Staying with friends & relatives	3.47
Length of Stay:	
No nights	1.76
1-3 nights	7.91
4-7 nights	6.30
8+ nights	5.48
Type of Group:	
Single adult	5.14
2 adults	5.43
Family with 1 child	4.05
Family with 2 children	2.88

* Car-borne

origin (Table 4.2) and group composition (Table 4.3). Overseas visitors spent more on average than visitors from the United Kingdom, although the difference between these two groups was not as marked as that shown by tourist surveys in other areas.

The spending of visitors within the national park was not concentrated in any one place, but tended to focus upon a small number of nucleated settlements which offered the greatest opportunity for spending. Lynton/Lynmouth and Porlock, for example, attracted average daily levels of spending by all recreational visitors to these settlements of £3.22 and £2.24 respectively (Table 4.4).

Interestingly, Dunster did not benefit from such high average daily expenditure, probably because:

a) those staying in Dunster made more use of rented private property than was the case in other settlements, and

b) Dunster attracted a greater proportion of day visitors (with lower spending) than did many other settlements in the park.

This example serves to highlight the way in which geographical and other variations in patterns of visiting can in turn affect the economic contribution that visitors make to an area.

Visitors to Exmoor National Park who travelled by car spent their money in a variety of different businesses (Table 4.5). As is usually the case, expenditure on accommodation accounted for the largest proportion of spending by staying visitors and, to a substantial extent, explained the difference in spending between

TABLE 4.4: Average Daily Expenditure per Visitor* - Location of Expenditure and of Accommodation, 1979.

Location	Location of Expenditure	Location of Accommodation
	Average 24 hour expenditure per capita (£)	
Dunster	1.50	4.51
Lynton/Lynmouth	3.22	8.38
Porlock	2.42	6.77
Dulverton	2.66	6.16
Barbrook plus selected settlements+	1.82	5.81
Winsford plus selected settlements&	0.97	3.94
Rest of Exmoor	1.51	4.86

* Car-borne and accommodated within Exmoor
\+ Includes: Barbrook, Selworthy and Parracombe
& Includes: Winsford, Exford, Challacombe and Simonsbath.

TABLE 4.5: The Pattern of Spending Per 24 Hours Per Person, 1979.

Type of Visitor*	Accomm-odation	Shops	Food & Drink	Enter-tain-ment	Other	Total
	Average 24-hour Expenditure (£)					
Serviced	7.17	1.60	1.23	0.11	1.03	11.14
Unserviced	1.25	0.94	1.27	0.20	0.60	4.25
Own	0.01	0.17	0.56	0.01	1.53	2.29
Friends & relatives	0.26	0.45	1.19	0.03	1.55	3.47
Holiday day trip	0.00	1.03	0.76	0.06	0.39	2.24
Day trip from home	0.00	0.29	0.56	0.05	0.15	1.05

* Car-borne.

staying visitors and those making a day trip, whether from home or from their holiday residence. However, even if the cost of accommodation is discounted, those on holiday spent more per capita than those travelling into the park from home. For those holiday visitors staying in the park spending on accommodation accounted for approximately half the daily expenditure incurred.

Holiday visitors staying in the National Park did not confine their activities to the park but used it as a base for day visits elsewhere. On such visits to areas within 15 miles of the park boundary it is estimated that holiday makers spent on average £2.28, excluding the cost of travel (£0.73), one direct contribution that tourism in the national park makes to the wider region.

For various reasons a number of visitors, whose prime reason for their holiday was to visit the National Park, chose to be accommodated outside but close to the park boundary. Their spending in the area itself is subsumed in statistics relating to holiday trips to Exmoor in Table 4.5. The visits to the park did not account for the whole of their time nor for all of their expenditure. If they had chosen their accommodation in order to visit Exmoor National Park then this would be an additional economic benefit that areas external to the park gain from its existence.

CONCLUSION

Assessing the economic impact of tourism on a sub-national economy requires complex quantitative

analysis. This chapter has examined the first element in that quantitative analysis, visitor spending.

The difficulties in measuring visitor spending are that the spending is spread over a wide variety of businesses (hotels, restaurants, shops, visitor attractions etc) and these businesses do not cater solely for visitors but receive custom from local residents as well.

The method of estimating visitor spending examined in this chapter has been one of establishing through field surveys the average rate and pattern of spending by different types of visitor and then combining this with information about visitor numbers (measured in terms of time spent in the area). The procedures for doing this are not as straightforward as they might appear and have involved developing survey and questionnaire design beyond that covered in standard textbooks. Thus this chapter has examined in detail the main considerations in obtaining information on spending through a survey of visitors. It has concentrated on the considerations in survey design and in questionnaire design. Failure to take account of these considerations will result in data that may be misleading regardless of the size of the sample.

The survey work provides data which can be organised by the model provided at the beginning of the chapter so that practical questions about the consumption of tourist-related services can be answered quantitatively. These are important in their own right in the policy making process for which economic impact studies are commissioned and can be used in the short run to evaluate the implications of changes in the pattern and level of tourism. Of more importance in the context of this thesis, however, is that the model of

visitor spending and the data used in conjunction with it provide the inputs for the more sophisticated models that assess the economic impact of tourism in terms of income and jobs.

APPENDIX

VISITOR SURVEY QUESTIONNAIRES

Code No:

Number of Visits

ECONOMIC IMPACT OF TOURISM IN THE CITY OF EDINBURGH

TOURIST SURVEY

Interviewer ..... Date .....

Cordon Time Started ..... Time Completed .....

INTRODUCTION: We are carrying out a survey for the Scottish Tourist Board to obtain some information on tourism in this area. Particularly we would like to have some information on the amount of money you may have spent on holiday here. Firstly, may I ask:

1. Are you on holiday or a day pleasure trip from home? Yes
   IF NO TERMINATE INTERVIEW No

SHOW MAP

2. We are concerned with the area within the boundary shown on this map. Have you spent money anywhere at all within this boundary within the last 72 hours? Yes / No
   IF NO TERMINATE INTERVIEW

2A Entry into Area: Date
Time
Place

3. Where is your home residence: ..... 1 Scotland, 2 U.K. (Specify Town), 3 Europe, 4 N. America, 5 Elsewhere

4. Are you: on holiday? 1
   on a day pleasure trip? 2
   IF 2 GO TO Q.11; IF 1 ASK Q.5

5. How long is your whole holiday (nights)? _____

6. How many nights of your holiday have you already had? _____

7. How many nights of your holiday will you be spending in this area? _____

8. How many nights have you just spent in this area? _____

9. Approximately how much is your total holiday budget? £ _____

10. FOR COACH TOURS ONLY
    How much is the package cost of your holiday? £ _____

11. I am now going to ask you for details of your spending in this region in the past 3 days. Could you first tell me whether your costs cover: Self Only 1, Whole family 2, Other groups 3
    IF 1 GO TO Q. 13; IF 2 OR 3 ASK Q.12

12. How many people will this include altogether? _____

		TODAY		YESTERDAY		DAY BEFORE YESTERDAY	
		Cost	Location	Cost	Location	Cost	Location
13. How much did you spend in this area today (yesterday, day before yesterday) on the following travelling costs and where did you spend it?	Petrol, oil						
	Car repairs, supplies						
	Bus						
	Train						
	Taxi						
	Car hire						
	Other (SPECIFY)						
14. Did you have overnight accommodation in the city last night(night before last, 2 nights before last?) (Show map) IF NOT GO TO Q.15; IF YES; Which of the following types of accommodation did you have, how much did it cost, where was it?	Hotel						
	Guest House						
	Bed & Breakfast						
	Caravan						
	Tent						
	Relations						
	Other (SPECIFY)						

		TODAY		YESTERDAY		DAY BEFORE YESTERDAY	
		Cost	Location	Cost	Location	Cost	Location
15. This question deals with your expenditure on food and refreshment other than spent at your place of accommodation. Could you tell me how much you spent in this area on food and refreshment today (yesterday, day before yesterday) in the following types of business and where these were?	Cafe/restaurant	.....	.....	.....	.....	.....	.....
	Hotels, pubs	.....	.....	.....	.....	.....	.....
	Food shops	.....	.....	.....	.....	.....	.....
	Other (SPECIFY)	.....	.....	.....	.....	.....	.....
	.....	.....	.....	.....	.....	.....	.....
	.....	.....	.....	.....	.....	.....	.....
	.....	.....	.....	.....	.....	.....	.....
16. Have you bought any souvenirs or gifts in this area today, (yesterday, day before yesterday)?, IF NOT GO TO Q.17, IF YES: How much did you spend on them and where did you spend it?	Business	.....	.....	.....	.....	.....	.....
	.....	.....	.....	.....	.....	.....	.....
	.....	.....	.....	.....	.....	.....	.....
	.....	.....	.....	.....	.....	.....	.....
	.....	.....	.....	.....	.....	.....	.....
	.....	.....	.....	.....	.....	.....	.....
	.....	.....	.....	.....	.....	.....	.....

		TODAY		YESTERDAY		DAY BEFORE YESTERDAY	
		Cost	Location	Cost	Location	Cost	Location
17. What leisure time activities have you taken part in? How much did it cost and where did you do it? LIST ACTIVITIES IN COLUMN 2 AND ENTER COST AND LOCATION IN APPROPPIATE SPACE							
18. Could you tell me what other expenditure you had in this area today (yesterday, day before yesterday)? How much did you spend on _____ and where did you spend it?							

19.
Approximately how much were your travel costs to this are ?

Transport £_____

Accommodation £_____

Food £_____

Other £_____

19a

How much foreign currency have you changed in this area today, (yesterday, day before yesterday)?

	TODAY	YESTERDAY	DAY BEFORE YESTERDAY
Official	.....	.....	.....
Semi-official (specify)	.....	.....	.....
	.....	.....	.....
	.....	.....	.....

To conclude the interview, would you give a little more information about yourself and the people you are travelling with to help us classify the results?

20.
Could you now tell me something about your work? Are you:

- working full time? 1
- working part time? 2
- retired? 3
- unemployed/not working? 4
- housewife not working outside home? 5
- in full time education 6

FOR OPTIONS 5 and 6 Q. 21-24 SHOULD RELATE TO HEAD OF HOUSEHOLD

21.
In what industry, trade or organisation do you work?

(IF RETIRED OR UNEMPLOYED ASK WHAT WAS THE INDUSTRY, TRADE OR ORGANISATION)

22.
What job do (did) you actually do?

23.
Are (were) you self employed?

(IF YES GO TO Q. 24 IF NO GO TO Q. 25)

24
How many persons, other than family, do (did) you employ?

END INTERVIEW

25 Does (did) the establishment for which you work(worked) have over 25 employees?	Yes No	1 2
26. Do (did) you hold any supervisory position or other position of responsibility in the organisation for which you work(worked)? IF NO GO TO END IF YES GO TO Q. 27.	Yes No	1 2

27.
How many people do (did) you supervise or are (were) you responsible for?

May I assure you that all the information you have given us will be treated in the strictest confidence.

THANK YOU VERY MUCH FOR YOUR HELP.

THE ECONOMIC IMPACT OF THE EDINBURGH FESTIVALS, 1976.

NON FESTIVAL ATTENDERS

Code Number: Interviewer: Date: Time Started:
Self Only Whole family Other Group Number:
Festival attended: International Fringe Tattoo Film None
Travel Type: Car Train Public Bus Coach Air
Accom. Type: Hotel G.H. B&B F/R Tent Caravan
Other: (Specify)
Length of Stay: 0 1 2 3 4 more nights (specify):
Origin: Scotland U.K. (Town) Europe N.A. Elsewhere
Occupation: Industry: Supervising:

NON FESTIVAL ATTENDERS

Code Number: Interviewer: Date: Time Started:
Self Only Whole Family Other Group Number:
Festival attended: International Fringe Tattoo Film None
Travel Type: Car Train Public Bus Coach Air
Accommom. Type: Hotel G.H. B&B F/R Tent Caravan
Other: (Specify)
Length of Stay: 0 1 2 3 4 more nights (specify):
Origin: Scotland U.K. (Town) Europe N.A. Elsewhere
Occupation: Industry: Supervising:

NON FESTIVAL ATTENDERS

Code Number: Interviewer: Date: Time Started:
Self Only Whole Family Other Group Number:
Festival attended: International Fringe Tattoo Film None
Travel Type: Car Train Public Bus Coach Air
Accom. Type: Hotel G.H. B&B F/R Tent Caravan
Other: (Specify)
Length of Stay: 0 1 2 3 4 more nights (specify):
Origin: Scotland U.K. (Town) Europe N.A. Elsewhere
Occupation: Industry: Supervising:

NOTES TO INTERVIEWER: Please write in answer where appropriate or circle appropriate answer.

TOURISM AND RECREATION RESEARCH UNIT - UNIVERSITY OF EDINBURGH - EXMOOR STUDY

Field Code No: _____

Location: Interviewer: Date:

Code No:					
TYPE OF TRANSPORT? Time: (24 hour clock)					
1 Car/van 2 Car & caravan 3 Motor cycle 4 Bicycle 5 Public bus 6 Coach tour holiday (specify operator) 7 Coach day trip (specify operator) 8 Other *(specify)* Transport Type: Tour Type: Coach Operator: *COACHES MUST BE ASKED TYPE OF TOUR & NAME OF OPERATOR*					
NUMBER OF PEOPLE? *(If coach, personal group only)*					
1. DO YOU LIVE WITHIN THE AREA SHOWN ON THE MAP *(If YES end interview)*	YES NO	YES NO	YES NO	YES NO	YES NO
2. WHERE IS YOUR HOME? Town					
County					
Country					
3. WHAT IS THE PURPOSE OF YOUR VISIT TO THE AREA SHOWN ON THE MAP? IS IT: 1) A holiday - staying in the area? → *GO TO Q.4* 2) A holiday (not staying in the area), but having a day trip to the area? → *GO TO Q.4* 3) A day trip from home for pleasure? → *GO TO Q.6* 4) Business? → *END INTERVIEW* 5) Passing through without stopping → *END INTERVIEW* 6) Other - specify → *END INTERVIEW*					
FOR OPTIONS 1 & 2 (Q.3) ONLY 4a. WHAT IS THE TOTAL LENGTH (NIGHTS) OF YOUR HOLIDAY FROM THE TIME YOU LEAVE HOME TILL THE TIME YOU GET BACK? b. HOW MANY NIGHTS HAVE YOU ALREADY SPENT AWAY FROM HOME? *OPTION 1(Q.3) GO TO Q.5* *OPTION 2(Q.3) GO TO Q.6*					
5a. HOW MANY NIGHTS IN ALL HAVE YOU ALREADY SPENT IN THE AREA? b. HOW MANY MORE NIGHTS DO YOU INTEND TO SPEND IN THE AREA?					
FOR OPTIONS 1, 2 & 3(Q.3) 6. LOOKING AT YOUR MAP AGAIN COULD YOU TELL ME AT WHICH POINT YOU FIRST ENTERED THE AREA.....? OPTION 1→ at the beginning of your holiday → *END INTERVIEW or GO TO Q.31 FOR LONG INTERVIEW* OPTION 2 & 3 → at the beginning of your trip → *GO TO Q.7*					
7. AT WHAT TIME DID YOU FIRST ENTER THE AREA TODAY? *END INTERVIEW or FOR LONG INTERVIEW, OPTION 1 & 3 GO TO Q.31, OPTION 2 GO TO Q. 8.*					

FOR OPTION 2 ONLY

8. WHERE DID YOU STAY LAST NIGHT?

9. WAS THE MAIN REASON YOU CHOSE TO STAY AT ..... TO ENABLE YOU TO VISIT THE EXMOOR AREA? YES 1 NO 2

YES GO TO Q.10
NO GO TO Q.11

10. WHY WAS YOUR HOLIDAY ACCOMMODATION OUTSIDE THE AREA?

ASK ALL

11. WHAT MADE YOU CHOOSE TO COME TO THIS AREA RATHER THAN ANYWHERE ELSE FOR THIS HOLIDAY (OPTION 1) TODAY (OPTION 2 & 3)

DO NOT READ OUT

Attractive area/to visit Exmoor
The coast
The villages
The moors
Always come - *PROBE*
Nearest - *PROBE*
Recommended - *PROBE*
Media/adverts - *PROBE*
Visiting friends and relatives - *PROBE*

12. WOULD YOU NAME AS MANY OF THE NATIONAL PARKS IN BRITAIN AS YOU CAN?

RING NUMBER

1 Brecon Beacons	4 Lake District	7 Peak District	10 Yorkshire Dales
2 Dartmoor	5 North Yorkshire Moors	8 Pembrokeshire Coast	11 Other - specify _____
*3 Exmoor	6 Northumberland	9 Snowdonia	12 Other - specify _____

** IF EXMOOR GIVEN, ASK Q.13, IF NOT GO TO Q.14*

13. WHEN YOU DECIDED TO VISIT EXMOOR, WAS THE FACT THAT IT IS A NATIONAL PARK AN IMPORTANT CONSIDERATION?

Important 1
Quite important 2
Not important 3

14. WHAT WERE THE MAIN THINGS YOU DID YESTERDAY (OPTION 1) TODAY (OPTIONS 2, 3)

15. WOULD YOU TELL ME THE PLACES YOU STOPPED AT FOR 30 MINUTES OR MORE YESTERDAY? (OPTION 1) TODAY? (OPTION 2, 3)

MARK PLACES NAMED ON MAP WITH CROSS

-3-

I WOULD NOW LIKE TO ASK FOR SOME DETAILS OF THE EXPENDITURE OF YOUR WHOLE GROUP OVER THE LAST 24 HOURS.

CHECK NUMBER OF PERSONS EXPENDITURE REFERS TO AND RECORD.....

CODE LIST (i(a): 1 Garage 2 Supermarket 3 Motorway service area

1). HAVE YOU SPENT ANY MONEY ON TRAVEL IN THE LAST 24 HOURS?

	1	2	3
a) HAVE YOU SPENT ANY MONEY ON PETROL OR OIL?			
i) Was this at a .....? (enter code)			
ii) Where was this?			
iii) How much did you spend?			
b) HAVE YOU SPENT ANY MONEY ON A BUS TRIP? (excluding sightseeing tours).			
i) Where was this? (origin)			
ii) How much did you spend?			
c) HAVE YOU SPENT ANY MONEY ON A TAXI?			
i) Where was this? (origin)			
ii) How much did you spend?			
d) HAVE YOU SPENT ANY MONEY ON CAR HIRE?			
i) Who did you hire it from?			
ii) Where was this?			
iii) How much did you spend?			
e) ANYTHING ELSE? (PROBE e.g., trains, car repairs, parking?)			
i) Item (write in)			
ii) Where was this?			
iii) How much did you spend?			

FOR OPTIONS 1 AND 2 ONLY

CODE LIST

4 Hotel - licensed
5 Guesthouse/unlicensed hotel
6 Public house/inn
7 Bed & breakfast (private house)
8 Rented home, cottage, flat, chalet
9 Second home
10 Friends or relatives
11 Static caravan - rented
12 Static caravan - own
13 Touring caravan
14 Tent
15 Youth hostel
16 Field study centre
17 Farm (specify, e.g., Bed & breakfast, rented cottage) _____
18 Other (specify, e.g., parked in lay-by) _____

17. WHAT TYPE OF ACCOMMODATION DID YOU USE LAST NIGHT?

What type? (enter code)	Name? (If hotel)	Where was it?	Breakfast (if any)? (Including meals & drinks bought there)

CODE LIST

20 Restaurant 21 Cafe 4 Licensed hotel 6 Public house 23 Chain store 24 Motorway service station
5 Unlicensed hotel 26 Take away 44 Other *(specify)*

18. HAVE YOU HAD A MEAL OUT IN THE LAST 24 HOURS APART FROM AT YOUR ACCOMMODATION? (Check lunch and dinner)

	1	2	3
i) Was it at a .....? *(enter code)*			
ii) Where was this?			
iii) How much did you spend?			
Drinks? (YES/NO)			

CODE LIST

4 Licensed hotel 6 Public house 25 Off-licence 44 Other (specify)

19. APART FROM WITH A MEAL, HAVE YOU BOUGHT ANY ALCOHOLIC DRINKS IN THE LAST 24 HOURS?

i) Was it at a .....? *(enter code)*			
ii) Where was this?			
iii) How much did you spend?			

CODE LIST

21 Cafe 20 Restaurant 26 Take away 24 Motorway service station 27 Snack bar 23 Chain store 44 Other (specify)

20. HAVE YOU HAD A SNACK IN A CAFE, RESTAURANT OR FROM A TAKE AWAY IN THE LAST 24 HOURS? *(check other than lunch or dinner)*

i) Was it at a .....? *(enter code)*			
ii) Where was this?			
iii) How much did you spend?			

CODE LIST

28 Local food shop 29 Local retail shop 23 Chain store 37 Post office 17 Farm 21 Ice cream van 32 Market stall
33 Site shop (e.g., caravan site) 34 Souvenir shop 35 Speciality/craft shop 36 Antique shop 24 Motorway service area
44 Other *(specify)*

21. HAVE YOU BOUGHT ANYTHING IN A SHOP IN THE LAST 24 HOURS?

(PROBE - souvenirs, gifts, postcards, food, cigarettes, sweets, stamps, clothes, telephone calls, visit to hairdresser)

	1	2	3
i) Was it from a .....? *(enter code)*			
ii) Where was this?			
iii) How much did you spend?			
	4	5	6
i) Was it from a .....? *(enter code)*			
ii) Where was this?			
iii) How much did you spend?			
	7	8	9
i) Was it from a .....? *(enter code)*			
ii) Where was this?			
iii) How much did you spend?			

CODE LIST

37 Cinema 38 Theatre 39 Department of Environment site, e.g., museum 40 Private site, e.g., stately home

41 National Trust site 42 Local authority leisure facility, e.g., swimming pool 43 Discotheque/night club 22 Safari park

44 Other *(specify)*

22. HAVE YOU SPENT ANY MONEY ON LEISURE ACTIVITIES SUCH AS A BUS SIGHTSEEING TOUR, GOLF, CINEMA, A VISIT TO A HISTORIC HOUSE IN THE LAST 24 HOURS?

	1	2	3
i) What was it? *(enter code)*			
ii) Where was it?			
iii) How much did you spend?			
	4	5	6
i) What was it? *(enter code)*			
ii) Where was it?			
iii) How much did you spend			

HOLIDAY VISITORS TO EXMOOR ONLY (OPTION 1) CONTINUE WITH Q.23; HOLIDAY DAY TRIP (OPTION 2) GO TO Q.32; OTHER DAY TRIPS (OPTION 3) GO TO Q.33

23. HAVE YOU BEEN ON ANY DAY TRIPS OUTSIDE EXMOOR?

YES 1

NO 2 *GO TO Q.33*

24. HOW MANY TRIPS HAVE YOU MADE DURING THIS HOLIDAY? .....

25. WHERE WAS THE MAIN DESTINATION OF YOUR LAST TRIP?

(This day trip must be more than 24 hours ago)

6.

26. Would you tell me something about your expenditure on that trip (for the whole group)

(check no. persons expenditure is given for)

a) What was your total expenditure for that trip? £_____

b) How much in all did you spend on travel (including bus trips, petrol etc.)? £_____

c) How much did you spend on food and drink in cafes, restaurants hotels etc? £_____

d) How much did you spend in the shops? £_____

e) How much did you spend on leisure activities? (excluding the cost of the coach trip) £_____

-7-

HOLIDAY DAY VISITORS ONLY (OPTION 2)

32. HOW MANY OTHER TRIPS (EXCLUDING THIS ONE) HAVE YOU MADE TO EXMOOR ON THIS HOLIDAY? _____

TO CONCLUDE THE INTERVIEW, WOULD YOU GIVE A LITTLE MORE INFORMATION ABOUT YOURSELF AND THE PEOPLE YOU ARE TRAVELLING WITH TO HELP US CLASSIFY THE RESULTS?

33. COULD YOU FIRST GIVE ME SOME DETAILS ABOUT THE PEOPLE IN YOUR PARTY, STARTING WITH THE HEAD OF THE HOLIDAY GROUP?

CODE	RELATIONSHIP
RESP	RESPONDENT
S	SPOUSE
C	CHILD
P	PARENT
SIB	BROTHER/SISTER
R	OTHER RELATIVE
F	FRIEND
O	OTHER *(SPECIFY)*

CODE	MARITAL STATUS
S	SINGLE
M	MARRIED
W	WIDOW/WIDOWER

No.	Relationship to Respondent	Sex	Age	Marital Status
1				
2				
3				
4				
5				
6				
7				
8				

34. COULD YOU NOW TELL ME SOMETHING ABOUT YOUR WORK? ARE YOU:

Working full-time	1	*Housewife not working outside home	5
*Working part-time/casual	2	*In full-time education	6
Retired	3	Other *(specify_____)*	7
Unemployed/not working	4		

**FOR CODES 2, 5 and 6, Q.35-36 SHOULD RELATE TO RESPONDENT'S HEAD OF HOUSEHOLD*

35. IN WHAT INDUSTRY, TRADE OR ORGANISATION DO YOU WORK?
(If retired or unemployed ask what was the industry, trade or organisation) _____

36. WHAT JOB DO (DID) YOU ACTUALLY DO? _____

37. ARE (WERE) YOU SELF-EMPLOYED? YES 1 NO 2
If YES, end interview. If NO, go to Q.38

38. DO YOU HAVE A MANAGERIAL POSITION OR ARE YOU A FOREMAN OR SUPERVISOR? YES 1 NO 2

MAY I ASSURE YOU THAT ALL THE INFORMATION YOU HAVE GIVEN WILL BE TREATED IN THE STRICTEST CONFIDENCE.

THANK YOU VERY MUCH FOR YOUR HELP.

Time completed: _____

Tourism & Recreation Research Unit,
University of Edinburgh,
Chisholm House,

OCT 1985

MERSEYSIDE TOURISTS

VISITORS (SHORT) QUESTIONNAIRE

JN.95406
1/2/3/4/5

OFFICE USE: [ ] (6.)

Location: [ ][ ] (7.) (8.)

Date: [ ][ ] (9.) (10.) Day [ ] (11.) MONTH

Questionnaire No. [ ]
12/13/14/15

Interviewer _____ Supervisor _____

Code No. _____

Respondent's Name: _____ CARD NO. [2] (16.)

			SKIP TO
IF 'No' AT Q.1 ON CONTACT SHEET			
2. Do you live somewhere else in the U.K.?		(17.)	
	Yes	1	Q.3
	No	2	Q.4
IF 'Yes'			
SHOW UK MAP			
3. Which of the regions shown on this map do you live in?		(18.)	
	North	1	
	Yorks/Humber	2	
	E. Midlands	3	
	E. Anglia	4	
	South East	5	
	G. London	6	Q.5
	South West	7	
	Wales	8	
	W. Midlands	9	
	North West	0	
	N. Ireland	X	
	Scotland	V	

IF 'No' AT Q.2

4. Which country are you from? (19.)

		SKIP TO
Ireland (Eire)	1	
France	2	
W. Germany	3	
Holland	4	
United States	5	
Canada	6	
Australia	7	Q.5
New Zealand	8	
Other (CODE & STATE)	9	

(20.)

ASK ALL

5. When did you arrive in Merseyside on this trip? (21.)

Today	1	
Yesterday	2	
Day before yesterday	3	Q.6
Within last week	4	
Longer ago	5	
Don't know	6	

6. What method of transport did you use to get to Merseyside? (22.)

Private Car/Van	1	
Hired Car/Van	2	
Train	3	
Regular Bus/Coach Service	4	
Coach tour/Special Coach	5	Q.7
Air	6	
Ship	7	
Other (STATE & CODE)	8	

7. How many people are there in your personal group on this trip? (By that I mean your family, close friends or immediate travelling companions.) * WRITE IN [ ][ ] (23) (24) Q.8

* Addition to question 7 used during second half of Autumn fieldwork is shown in brackets.

			SKIP TO
8.	Are you staying overnight in Merseyside on this trip, or are you on a day visit?	(25.)	
	Staying	1	Q.9
	Day Visit	2	Q.12
	IF 'Staying'		
	SHOW CARD A		
9.	What type of accommodation are you staying in?	(26.)	
	Licensed Hotel	1	
	Unlicensed Hotel/Guest House	2	
	Rented House/Flat	3	
	Paying Guest in Private House	4	
	Staying with friends or relatives	5	
	Staying in a Second Home	6	Q.10
	Touring Caravan	7	
	Static Caravan	8	
	Camping	9	
	Holiday Camp	0	
	Youth Hostel	X	
	Hall of Residence	Y	
	Other (STATE & CODE) _____	(27.) /	
10.	How many nights are you staying in Merseyside?		
	WRITE IN	(28.) (29.)	Q.11

SHOW CARD B

			SKIP TO
11.	What is the main reason for you being in Merseyside today?	(30.)	
	On a weekend/short break (up to 3 nights)	1	MAIN STAY-ERS Q'AIRE
	On an independent holiday	2	
	On an inclusive package holiday	3	
	On business	4	MAIN
	To attend a conference	5	BUSI-NESS Q'AIRE
	With someone attending a conference	6	
	On a course	7	
	On a shopping trip	8	CLOSE
	On Family/personal business	9	
	Other reason (STATE & CODE)	0	
	_____		
	_____		

IF 'Day Trip' at Q.8

SHOW CARD C

12.	What is the main reason for you being in Merseyside today?	(31.)	
	On a day trip from home for pleasure	1	
	On a day trip for pleasure while on holiday away from home	2	Q.13
	On business	3	
	To attend a conference	4	
	With someone attending a conference	5	
	On a course	6	
	On a shopping trip	7	CLOSE
	On Family/Personal Business	8	
	Other reason (STATE & CODE)	9	
	_____		

IF 'Day Trip for Pleasure'

13.	CODE TIME OF DAY	(32.)	
	Before 3 p.m.	1	CLOSE
	3 p.m. or later	2	MAIN DAY TRIP Q'AIRE
		(33.)	
		|	
		(80.)	

British Market Research Bureau, 53 The Mall, London W5 3TE

AUG 1985 — MERSEYSIDE TOURISM DRAFT — JN. 9 5 4 0 6 (1/2/3/4/5)

- STAYERS (MAIN) QUESTIONNAIRE

Respondents Full Name (Mr/Mrs/Miss) _____

Tele.No:
Exchange Name _____
Exchange No. _____

Home Address _____ Tel. No. _____

QUESTIONNAIRE NO.

VERSION 52 [2] (6.) Location [ ][ ] (7.)(8.) Date: [ ][ ] (9.)(10.) DAY [ ] (11.) MONTH [ ] 12/13/14/15

Location _____ CARD NO. [3] 16

Interviewer _____ INTERVIEWER CODE [ ][ ][ ][ ] 17 18 19 20

Supervisor _____

Interview time: From _____ To _____ HOUR INTERVIEW STARTED [ ] 21

OFFICE USE ONLY [ ] 22

SEX (23.)

Man	1
Woman	2

AGE (24.)

16 - 24	1
25 - 34	2
35 - 44	3
45 - 54	4
55 - 64	5
65 or over	6

WORKING STATUS (25.)

Working 30+ hours	1
Working 8-29 hours	2
Working under 8 hours	3
Not working	
- retired	4
- unemployed	5
- housewife	6
- student	7

MARITAL STATUS (26.)

Single	1
Married	2
Separated/Widowed/Divorced	3

HOUSEHOLD COMPOSITION

Number aged :	0-5	(27.)
	6-10	(28.)
WRITE IN	12-15	(29.)
	16+	(30.)

HEAD OF HOUSEHOLD IS (31.)

Respondent	1
Someone else	2

SKIP TO

IF WITH OTHERS

40. OBTAIN AGE AND SEX DETAILS OF ALL PARTY MEMBERS INCLUDING RESPONDENT, AND WRITE IN NUMBERS IN RELEVANT BOXES BELOW (58.) ↓ (80.)

CARD 5 (16.) (5)

		Male		Female			
Age:	0-10					17-20	
	11-15					21-24	
	16-24					25-28	
	25-34					29-32	
	35-44					33-36	
	45-54					37-40	
	55-64					41-44	
	65+					45-48	Q.41

ASK ALL

41. For the final part of this questionnaire I'd like to ask you some questions about how much money you (and the others in your party) have spent on different things during this trip.

Firstly are you on an inclusive tour or package trip to Merseyside? (49.)

Yes	1	Q.42
No	2	Q.48

			SKIP TO
	IF 'Yes'	(50.)	
42.	Which company organised your package tour? _____	(51.)	Q.43
43.	How much in total did the package cost? WRITE IN £ [ ][ ][ ] . [ ][ ] (52.) (53.) (54.) (55.) (56.)		Q.44
	IF NOT IN £, STATE: _____		
44.	How many people does that amount cover? WRITE IN [ ][ ] (57.) (58.)		Q.45
45.	For how many nights in total is the trip? WRITE IN [ ][ ] (59.) (60.)		Q.46
46.	And for how many of these nights are you staying in Merseyside? WRITE IN [ ][ ] (61.) (62.)		Q.47
	SHOW CARD T		
47.	Which of the items on this card are covered in the price of the package?	(63.)	
	Accommodation only	1	
	Bed and Breakfast	2	
	Half Board	3	
	Full Board	4	Q.52
	Travel within UK	5	
	Travel to UK	6	
	Admission to tourist attractions	7	
	Anything Else	8	
	(STATE + CODE) _____		

SKIP TO

IF NOT ON PACKAGE AT Q.41

48. How much does your accommodation in Merseyside cost per night for you (and the others in your party)? WRITE IN

IF NOT IN £, STATE: _____ £ [ ] [ ] [ ] . [ ] [ ] (64.) (65.) (66.) (67.) (68.) Q.49

49. How many people does that amount cover?

WRITE IN [ ] [ ] (69.) (70.) Q.50

50. For how many nights are you staying in Merseyside?

WRITE IN [ ] [ ] (71.) (72.) Q.51

SHOW CARD U

51. Which of the items on this card are covered in that price?

(73.)

Accommodation only	1
Bed and Breakfast	2
Half Board	3
Full Board	4

Q.52

(74.) ↓ (80.)

SKIP TO

ASK ALL

52. For the remainder of these questions about spending, I'd like you to think just about the money you (and the others in your party) have spent in Merseyside in the last 24 hours. I'm going to read out a list of different types of spending and for each one I'd like you to tell me how much you (and your party) have spent in Merseyside in the last 24 hours.

(16.) CARD 6 (6)

READ OUT:

		£	p	
(a)	On Food and Drink in your accommodation, not included in the amounts you've already told me about			17-21
(b)	On eating and drinking in cafes and restaurants			22-26
(c)	On eating and drinking in public houses			27-31
(d)	On buying food and drink from grocers, bakers, off-licences and so on			32-36
(e)	On souvenirs, gifts and postcards			37-41
(f)	On newspapers, cigarettes, sweets, stamps and writing paper			42-46
(g)	On Books, Clothes, Shoes or any other major purchases you haven't already mentioned			47-51
(h)	On public transport			52-56
(i)	On petrol, oil and other items connected with travelling by car			57-61

(62.) ↓ (80.) Q.93

(16.) CARD 7 (7)

SKIP TO

SHOW CARD V

53. Still thinking about the spending of you (and your party) in Merseyside over the last 24 hours, which if any of these leisure facilities have you (and your party) spent any money on?
CODE IN GRID BELOW

IF 'None of these' SKIP TO Q.55
OTHERS ASK Q.54 FOR EACH FACILITY MENTIONED

54. How much did you and your party spend on .....?

	Q.53	Q.54	
	SPENT ON	AMOUNT SPENT £ . P	
	(17.)		
Tourist attractions such as zoos, gardens, museums etc	1		18-22
Sightseeing tours	2		23-27
Attending a play/show at a theatre	3		28-32
Attending a ballet/ contemporary dance	4		33-37
Seeing a film at a cinema	5		38-42
Attending a sporting event	6		43-47
Attending a classicial concert	7		48-52
Attending a pop concert	8		53-57
Dancing at a disco or ballroom	9		58-62
Bingo or any other amusements	0		63-67
None of these	X		Q.55

			SKIP TO
ASK ALL			
55. Do you think you (or your party) have spent and other money in Merseyside over the last 24 hours		(68.)	
	Yes	1	Q.56
	No	2	
	Don't know	3	Q.58
IF 'Yes'			
56. What else have you spent money on?		(69.)	
_____		(70.)	Q.57
_____			
57. How much did you spend? £		(71.) (72.) (73.) . (74.) (75.)	Q.58

CHAPTER FIVE

TOURIST-RELATED BUSINESSES AND THE CIRCULATION OF MONEY

INTRODUCTION

The proportional multiplier has been developed because tourist spending is not a complete measure of the value of tourism to an area for two reasons. Firstly, not all the money spent by visitors remains within the area as leakages, such as purchases from elsewhere by businesses and taxation, do occur. Secondly, any purchases made locally by businesses will result in local incomes which can be respent. Thus policy makers have been concerned to understand the implications of the circular flow of visitor spending within their economy.

This concept of a circular flow can be illustrated simply by dividing the economy into two parts: consumers and producers. These parts are not, however, mutually exclusive. For example, consumers work within the productive system while producers for their part purchase labour. Thus an economy can be depicted in simple terms as a series of exchanges of money, goods and labour as shown in Figure 5.1.

In Figure 5.1 the term 'household' represents all people pursuing an activity, plus their dependents, by providing labour or capital in return for income (wages, profit and rent). The term 'firm' represents the units of production whereby raw materials are converted into goods and services.

FIGURE 5.1: THE FLOW OF MONEY, GOODS AND SERVICES THROUGH THE ECONOMY .

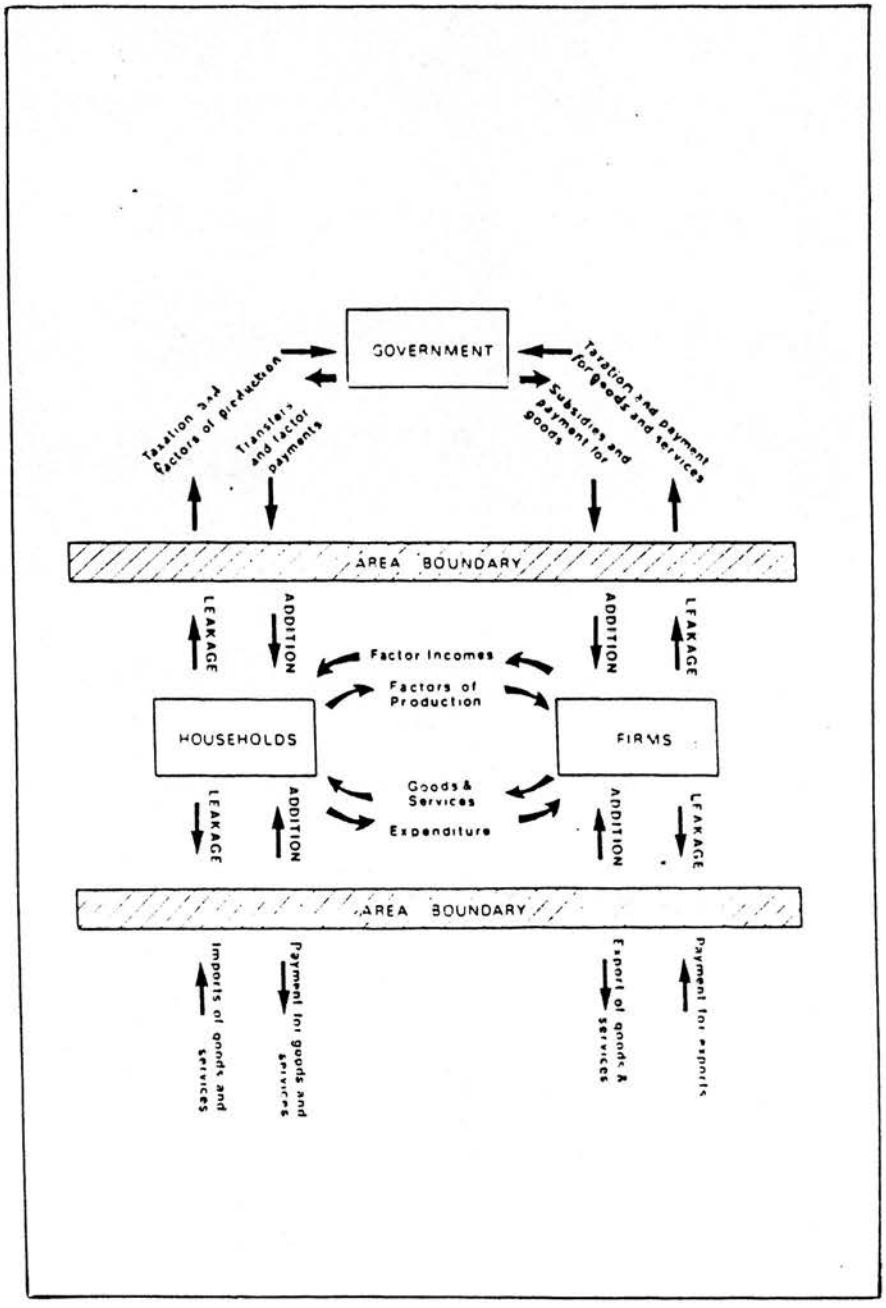


Figure 5.1, therefore, shows very simply the way in which an economy is based around continuous economic exchanges. If there are leakages from this circular system (an example being the purchase of goods and services from elsewhere) then the economy will contract. If there are additions to this circular system (an example being visitor spending in the economy) the economy will grow. It is these exchanges within the economy and leakages from the economy which the proportional multiplier models and the data collection tries to capture.

This chapter evaluates the equations, the data collection and the subsequent data adjustment procedures involved in a proportional multiplier study, concentrating on the purchasing of goods and services locally by businesses and the payment of income (wages, profit and rent) to local residents or businesses owned locally. (Chapter Six looks at the implications for the local workforce of visitor spending).

MODELLING THE CIRCULATION OF MONEY

Proportional multiplier studies have been based on the simultaneous resolution of a series of equations representing different types of business. The analysis is aimed at measuring the average relationship for each type of business between:

a) turnover and purchases made from local suppliers, and

b) turnover and income by way of, for example, wages, for local residents.

This section examines the specification of the equations which form the basis of the analysis of these relationships. The section sets out the equations covering the purchasing locally of goods and services by businesses and the equations on which income multiplier coefficients, are based. In this context an income multiplier coefficient is a value which expresses direct, indirect and induced income (as defined in Chapter Two) as a proportion of the turnover of the original business.

Spending/Purchases

In the previous chapter this thesis has considered the initial round of purchasing by visitors. This spending by visitors is the initial stimulus to economic activity. Subsequently the businesses in which visitors spent their money make purchases of goods and services, some of which are purchased from local suppliers. These suppliers will themselves make purchases from other local businesses. Finally each of the businesses which received money as a result of visitor spending will pay out income to its employees and owners. If they are local then this may stimulate further activity if the income is respent locally. Thus the circulation of spending by visitors can be divided into three stages:

a) direct spending by visitors on the goods and services provided by the businesses in which the visitors spend their money,

b) indirect spending by visitors which consists of the successive rounds of local business transactions that result from, and include, the purchase of goods and services by the businesses in which visitors spend their money, and

c) induced spending which consists of the re-spending by local residents of the income earned as a result of visitor spending.

The indirect stage of the circulation of visitor spending consists of the first and subsequent rounds of purchasing by businesses. For example, limiting the purchasing to two rounds for ease of exposition, the sum of the first and second rounds for a business of type n, expressed as a coefficient, is given by:

$$P_n = \frac{\sum_{d=1}^{D} P_{nd} + \sum_{d=1}^{D} \sum_{i=1}^{I} P_{nd} P_i}{T_n} \qquad (1)$$

where:

P_n = the purchase generation coefficient, covering the first two rounds, of a business of type n

P_{nd} = the local first round purchases by a business of type n

d = the types of businesses from which the first round purchases are made

P_i = the purchase coefficient of the i^{th} type of local business

T_n = the turnover of a business of type n

Assuming, for ease of exposition, that the business of type n and all other types of business purchase from three types of supplier, the first and second round purchases coefficient, in expanded form, becomes:

$$P_n = \frac{\begin{array}{l} P_{n1} + P_{n2} + P_{n3} + \\ P_{n1}\,P_1 + P_{n1}\,P_2 + P_{n1}\,P_3 + \\ P_{n2}\,P_1 + P_{n2}\,P_2 + P_{n2}\,P_3 + \\ P_{n3}\,P_1 + P_{n3}\,P_2 + P_{n3}\,P_3 \end{array}}{T_n} \qquad (2)$$

where, for example:

P_{n2} = the purchasing by the business of type n from a business of type 2

$P_{n2}\,P_3$ = the purchasing by a business of type 3 as a result of purchases by the type n business from a business of type 2

However this is not a full specification of the economic activity which takes place because such activity creates local income by way of wages, salaries, profit and rent in the original business(es) which started the process and in the subsequent businesses which composed the subsequent rounds of purchasing. These incomes may be respent creating further economic activity. Therefore it is necessary to incorporate this 'induced' activity giving the full-specification of purchase creation by an individual business (again, as above, limiting the rounds of purchasing by businesses in order to ease of exposition) as:

$$P_n = \frac{\sum_{d=1}^{D} P_{nd} + \sum_{d=1}^{D}\sum_{i=1}^{I} P_{nd}\,P_i}{T_n} + G_n \left(\sum_{i=1}^{I} X_i\,P_i \right)$$

(3)

where:

P_n = the coefficient for the total purchases made within the area as a result of a purchase being made from the n^{th} type of business

P_{nd} = the direct purchases by the n^{th} type of business

P_i = the purchase coefficient of the i^{th} type of local business

T_n = the turnover of the n^{th} type of business

G_n = the total income generation within the area resulting from purchases made from the n^{th} type of business

X_i = the proportion of local resident spending accounted for by the i^{th} type of business

Income

In the above complete model of purchasing there is one major element that at this point is unknown and needs to be specified: the term G_n. This term is made up of a number of elements as was the case for purchasing.

The equation modelling income generation by a business of type n is:

$$Y_n = \frac{\sum_{d=1}^{D} Y_{nd} + \sum_{i=1}^{I} P_{ni} Y_i}{T_n} \qquad (4)$$

where:

Y_n = the income generation coefficient of a business of type n

Y_{nd} = the direct income paid out by a business of type n

d = the types of direct income

P_{ni} = the cost payments by a business of type n for goods and services provided by the i^{th} type of local businesses

Y_i = the income generation coefficient (direct and indirect) of the i^{th} type of local business

T_n = the turnover of a business of type n

This equation contains two stages of impact. Firstly, direct income which is given by:

$$\frac{\sum_{d=1}^{D} Y_{nd}}{T_n} \qquad (5)$$

and which in expanded form becomes:

$$\frac{W(1-h-t_w) + B(1-h-t_b) + A(1-t_b) + F(1-t_f)}{T_n} \qquad (6)$$

where:

W = the wages and salaries of employees living locally

h = the national insurance contribution rate of owners or employees

t_w = the direct rate of taxation on the wages and salaries

B = the part of profit used by owners living locally for personal income (drawings)

t_b = the direct rate of taxation on profit

A = the part of profit retained within the business (additions to capital) locally

F = the rent for land or premises which is paid to local residents or businesses

t_f = the direct rate of taxation on rent

T_n = the turnover of a business of type n

Secondly, indirect income which is given by:

$$\frac{\sum_{i=1}^{I} P_{ni} Y_i}{T_n} \qquad (7)$$

and which in expanded form, assuming only three types of supplier, becomes:

$$\frac{P_{n1} Y_1 + P_{n2} Y_2 + P_{n3} Y_3}{T_n} \qquad (8)$$

where, for example:

P_{n2} = the cost payments made by a business of type n to a local business of type 2

Y_2 = the income generation coefficient (direct and indirect) of a local business of type 2

In addition to the direct and indirect income created there is also the additional income created as a result of income earned being respent. Incorporating the induced income multiplier defined in Chapter Two the full specification for income generation for a business of type n is:

$$\left[\frac{\sum_{d=1}^{D}\sum_{i=1}^{I} Y_{nd} + \sum_{i=1}^{I} P_{ni}\, Y_i}{T_n}\right]\left[\frac{1}{1-L\left(\sum_{i=1}^{I} X_i\, Z_i\, Y_i\right)}\right] \qquad (9)$$

where:

L = the average propensity to consume

Z_i = the proportion of resident spending in the i^{th} type of business which is spent locally

and the other terms are as previously defined.

ADVANCES IN THE SPECIFICATION OF THE MODEL

The above equations on income are consistent with the those used in the study of Greater Tayside by Henderson and Cousins (TRRU, 1975). However, there have been developments made by the author of this thesis to the specification of the equations both to make the models more 'accurate' and to meet the changing needs of the policy makers commissioning the studies.

Firstly, the above equations would have been defined as applicable for 'average ' as opposed to 'marginal' businesses in the study from which the work in this thesis has been developed: the study of Greater Tayside (TRRU, 1975). Average businesses were defined as those which depended on tourism and marginal businesses were those for which tourism was only a marginal addition to their turnover. Thus in the Tayside study the equations for those businesses which only had some additional turnover because of visitor spending were modified so that they related only to the turnover, income and payments arising from the marginal addition of tourist spending. However, as was explained in Chapter Three

the value of such a procedure is questionable. As a result these adjustments were not made in the studies on which this thesis is based.

Secondly, as is evident from the equations the indirect element of spending, that is purchasing by businesses from other local businesses, is implicit in the income generation model which forms the focus, along with job creation which is considered in the next chapter, of economic impact studies of visitor spending. However, setting out equations specifically to model this process of purchasing, and ultimately to provide quantitative measures of this purchasing, did not take place until the study of economic activity within national parks by the author of this thesis in 1979/1980 (TRRU, 1981). The reason for the development and application of these equations was to provide information about whether tourism was a weak industry, compared to other economic activities, in terms of linkages to the local economy. The results of this and other comparisons are contained in Chapter Nine.

Thirdly, as indicated the equations presented for income creation are largely compatible with those developed during the Tayside study by Henderson and Cousins (TRRU, 1975). However, the ability of the model to provide dis-aggregate results was not considered by Henderson and Cousins who were concerned to measure the extent of the overall size of the income multiplier coefficient and the total amount of income created. In the study of "Tourism in the Economy of Scotland" (Vaughan et al, 1987) which was undertaken in 1981, however, the author of this thesis began to use the model to examine 'who benefits' rather than simply the 'amount of the benefit' in total.

The ability of the model to provide information on who benefits (by dis-aggregating local income into its component parts) was more fully developed in the subsequent studies with the questionnaire being substantially modified to meet the change in emphasis of the analysis. Since 1982 the emphasis has continued to move towards analysing the nature of the direct effect for two related reasons. The first reason is that the direct effects on both incomes and jobs have been shown to be substantially greater than the indirect and induced effect, accounting for in excess of 70 per cent. Therefore measuring these 'accurately' is more important and cost effective than devoting substantial amounts of resources to measuring the indirect and induced effects. The second reason is that policy makers have become more sophisticated in their advocacy and planning needs. By 1982 it was not sufficient to simply say there was so much income created the debate had moved on to who was actually receiving that income.

Finally, in 1982 one further advance in the specification of the model, which was partially foreshadowed in the study of Scotland (Vaughan et al, 1987) in 1981 in respect of rent and the calculation of induced income, was made to the model during the study of Brighton and Hove by the author of this thesis. As will be realised not all the income types generated directly or indirectly (equations 6 and 8) should be re-circulated through a multiplier based on local personal consumption. While retained capital and rent are an addition to local income they will not be used in the same way as wages or that part of profit which is used as personal disposable income. Retained capital and rent may be spent in the long run in making capital improvements to the business but they will not be spent in the short run on food and clothing and so

on. Thus since the Brighton and Hove study (Vaughan, 1982) the analysis has been adjusted in order to exclude surplus earnings and rent from the amount which is fed through the modified keynesian multiplier which models induced income generation. The implications of this change in the specification of income which feeds through the keynesian multiplier are assessed in Chapter Eight.

THE MAIN COMPONENTS OF, AND ADVANCES IN, THE DESIGN OF THE BUSINESS SURVEYS

The basis of economic impact research is sample surveys of different economic activities and of tourists. Sampling is the process of selecting respondents to be interviewed. The objective is to select representations of the entire universe to be measured with the information being obtained from as small a number as possible consistent with reasonable accuracy. This section of the chapter considers how this objective has been met and highlights how the data collection procedures adopted in business surveys have been modified since 1976 during the studies on which this thesis is based. The sampling procedures adopted and developed were based on the answers to six questions.

The first question is: what method of sampling should be adopted?

In the early studies (those prior to 1981) simple stratified random sampling of sectors of the tourist industry was undertaken. Stratified sampling is technique that is distinguished by a two step procedure. In the first step the survey population is

divided into mutually exclusive subsets. In the second step a random sample of elements from within each subset is selected.

In the pre 1981 business surveys tourist-related businesses were divided into broad subsets such as licensed hotels, restaurants, shops and visitor attractions. The structure of the tourist industry, however, may result in simple stratified random sampling producing misleading results. Allowing every business an equal chance of appearing also means an equal chance of not appearing. But in the tourist industry each unit does not carry an identical weight. The distribution of the major economic characteristics (turnover, employment and purchasing) are skewed.

Therefore in 1981 during the study of Scotland (Vaughan et al, 1987) the sampling method was modified in an attempt to secure a more accurate basis for the analysis. The modification was to divide the universe into more homogeneous segments and then select at random within these segments. Thus business surveys conducted by the author of this thesis have since the study of Scotland, adopted a more complex stratified random sampling the implications of which for the 'accuracy' of the results are assessed in Chapter Eight. The more complex stratification divides businesses according to size as well as type. Thus prior to 1981 the sampling frame for the hotel sector, for instance, was all hotels. Since 1981 the hotel sector has been further stratified by size (hotels with more than 100 bedrooms, hotels with 51 to 100 bedrooms, hotels with 11 to 50 bedrooms and, finally, hotels with 1 to 10 bedrooms).

The second question is: which businesses should be included in the survey?

The difficulty with tourism is identifying where the industry begins and where it ends. The more specific the definition the sounder the sampling base. But the tourist industry is fragmented. It covers, at the direct level, those businesses such as hotels, retail outlets and restaurants which by the nature of their activity probably serve tourists. It also encompasses those businesses which serve tourists indirectly, such as wholesalers and manufacturers, by supplying those businesses that serve tourists directly. The common link between the various parts of the industry is that businesses receive part, or all, of their income as a result of spending by visitors.

Official statistics are not collected for tourism as an industry or even its main components. As a result it is difficult to compile a definitive analysis of the structure and size characteristics of the tourism industry in an area except for the accommodation sector. Thus the sampling frame has usually been based on a priori reasoning (matching the types of businesses defined in the frame to the known distribution between businesses of visitor spending). This a priori frame can contain a large number of different types of business. For example, a list of the 20 types used in the South East Dorset Survey is contained in the questionnaire which forms an appendix to this chapter.

The third question is: from where can lists of businesses be obtained from which a sample can be drawn?

The third question, therefore, relates to compiling the list of businesses from which the random sample will be

drawn. The problem is that there are no definitive sources of the businesses located within any given area. Therefore, the sampling lists have been compiled from a range of sources. For the direct sector these sources have included telephone directories, commercial directories and accommodation guides. Compiling the lists of relevant enterprises involved in the estimation of the indirect impact has been accomplished by simply incorporating a question about local suppliers in the direct sector interviews. Thus the relevance of the businesses supplying data for the indirect effect has been ensured.

The fourth question is: how many of each type of business should be interviewed?

The question of sample size for each of the types of business selected has been answered in largely the same way in all impact studies. Sample size has been based on the practicalities of data collection. The most obvious practical influences have been the money and time available to conduct the studies. However, a less obvious practicality is that there may have been very few businesses of given types available to be selected in the first place and many of those that there are, such as shops, are often part of the same company.

In general the practical objective in impact studies has been to achieve a minimum of four to five interviews per business category. The use of such small sample sizes has led people to question the validity of the results and to argue that data should have been obtained for more businesses. However, while more data is generally desirable there are two reasons why such sample sizes have probably been adequate.

Firstly, simply judging the likely accuracy on the basis of some arbitrary notion of the number of businesses a sample should contain is potentially dangerous, particularly as such judgements are likely to be based on experience of sample sizes in other types of survey, such as household surveys, where the potential differences within the sample are much greater.

Secondly, increased emphasis has been placed, in terms of sample size, on those businesses which are either the major components of the impact or which are considered to be the major foci for policy. Thus relatively larger samples have been collected for the components of the accommodation sector and relatively smaller samples for the supply sector.

Thus larger sample sizes in the business surveys on which this thesis is based may not have provided a better data base but simply increased expense. This possibility is returned to in a later section of this chapter.

The fifth question is: how should the potential respondents be approached?

Given the nature of the data required this is a major question. Various methods have been tried previously to raise the response rates including setting up public meetings to which businessmen are invited to have the research explained to them. The general procedure, however, has been an introductory letter, followed by a telephone call to explain the survey in depth and to secure co-operation. For some types of business this process is extended by further letters and telephone calls to secure head office permission and co-operation. If the response has been 'no' then

approaches have been made to other "similar" businesses until the required sample was achieved.

The response rate achieved in business surveys have varied. However, it is interesting to note that the familiarity of the person making the telephone calls with the questionnaire and analysis, and experience of making such calls, can make a significant difference. For example, in the study of Scotland the telephone calls were made by a person who, although briefed, was not experienced in undertaking business interviews or with analysing and interpreting the data. The response rate in Scotland survey was 24 per cent. In comparison the response rate in the survey of Winchester, where the telephone calls were made by the author of this thesis, was more than double this at 53 per cent (a level of response which has been fairly typical in the studies since 1981).

The final question is: what other information is needed in order to undertake the analysis?

In the studies prior to that of the economy of Scotland in 1981 the answer would simply have been information by which to standardise the data to a single year, for example the Retail Prices Index. However, since (and including) that study the answer has also included data by which the businesses interviewed could be adjusted to represent the total population. Such a procedure was not adopted in the earlier (pre-1981) studies in which weighting was based solely on the information extracted from expenditure surveys, leaving the data obtained from the businesses unweighted.

Since 1981, and particularly in respect of the accommodation sector, information on the size characteristics of the population of businesses (the

number of employees for non-accommodation businesses and the number of bedroom/pitches for the accommodation sector) has been used to weight the data collected. Such adjustment procedures have been aimed at counter-balancing distortions introduced by sampling and at ensuring that each respondent (or groups of respondents) has the correct proportional impact on the results. Thus the weighting has corrected for the probability of each type being sampled by adjusting for the probability of each establishment being selected within its type and size characteristics within the case study area(s). The implications of this for the 'accuracy' of the results are assessed in Chapter Eight.

AN EVALUATION OF SURVEY DESIGN

The Basis for Evaluation

As indicated in the previous section the main point to be aware of in designing a survey of businesses is that businesses do not carry an equal importance in the economy. The distribution of turnover, income, purchases and employment (the components of impact analysis) are skewed. Therefore, in evaluating the survey design a number of elements must be considered.

The first consideration is that while achieving realistic sample sizes must be paramount the truth that a large sample is better than a small one should not be accepted without question. Given the skewed nature of local economies a small sample may more accurately represent the distribution of the components of impact. The second consideration is that the design of the sampling frame must attempt to define and incorporate

the different types of business in the universe into homogeneous segments based on type and size.

The third consideration is that there is unlikely to be a complete listing of the relevant businesses available. Care, therefore, has to be taken in compiling a sampling list from available directories, in particular, recognising their deficiencies.

Given that these problems are known to exist the business survey conducted in South East Dorset can be evaluated, as an example, using the criteria above.

The South East Dorset Study

The selection of businesses was a stratified random sample based on lists compiled from various sources: accommodation registers, Yellow Pages, Thompsons Local Directory and so on.

In selecting the stratified random sample the potentially tourist-related businesses in the area were divided into various types such as, for example, hotels with more than 100 bedrooms. For each of these types a list was compiled and establishments were selected at random using a random starting point and taking every n^{th} business. The establishments were then contacted initially by letter and then by telephone to secure their co-operation. If an establishment refused to provide the details required it was replaced by a 'similar' establishment again selected at random from the list.

Following this procedure the co-operation of 96 establishments in which visitors spent money was secured and interviews conducted. During the interviews with these 'direct' businesses the names of

the 3 main suppliers of each of the businesses was obtained and a list of suppliers produced. Following the same procedure as detailed above a further 7 interviews were arranged and conducted with the suppliers of the direct businesses.

A detailed breakdown of the sample obtained in respect of selected business types in Bournemouth is detailed in Table 5.1. (Purely Bournemouth businesses are given as these form the basis for the results presented later in this chapter). As can be seen the level of co-operation varied between the types of businesses. Overall the response rate was 52 per cent. The table and the calculation of the response rate excludes firstly, businesses who could not supply the relevant information because they had not been in business for a sufficient time period (7 cases) and, secondly, businesses from which it proved impossible to secure an answer on whether they would, or would not, co-operate (10 cases).

The main reasons for refusal were that the survey asked for financial information which the potential respondent was unwilling to supply or that there was no time available because the respondent was too busy preparing for the coming season (the survey took place in March to May inclusive). It is not known whether the refusal of some businesses introduced a bias into the results as there is no objective basis for making a judgement on the businesses which refused vis-a-vis those for which data were obtained. However, subjectively, it is thought that no substantial bias was introduced into the overall results of the study.

The subset of hotel businesses was weighted using data supplied by the Southern Tourist Board. During the survey the hotel sector had been divided into four size

TABLE 5.1: The Sample of Tourist-Related Businesses in Bournemouth.

Type of Business	Approached@	Interviewed	Response Rate
	No	No	%
Hotel*	24	15	63
Hotel/Guest House+	19	8	42
Rented Accommodation	15	7	47
Restaurant/Public House	13	8	62
Retail	22	10	45
Total	93	48	52

@ The number of establishments approached excludes, firstly, those with whom personal contact was never achieved, and secondly, those businesses which had not been in existence long enough to provide the relevant information.

* Hotels with more than 10 bedrooms.

+ Guest Houses and Hotels with less than 11 bedrooms.

categories. The weighting was derived by dividing the number in the sample into the number in the universe. Each questionnaire for the size group was then multiplied by the weight derived. Following this the data for the four size categories were added together to form the aggregate hotel category.

The Evaluation

The main task in designing a survey is to limit the possibility of error in the data. Samples are subject to three types of error. There is inherent sample error in that no sample can be truly representative of the population from which it is drawn. There are errors arising from the procedures adopted in the study such as poor design, poor field work, non response. Finally, there are the errors occurring in the information supplied or in the procedures applied before and during analysis. The design of the study of South East Dorset, and the designs of each of the other business surveys, needs to be evaluated in respect of each of these if the validity of the results is to be assessed.

The first consideration in evaluating survey design is the size of the sample (and by implication the expected standard error). For reasons of cost and time, impact samples have tended to be small for sub-sections of the industry: upto 20 businesses for each sector of the tourist industry. It is difficult to estimate the actual effect the 'small' samples have had on the results of business surveys such as that conducted in South East Dorset. However, there are two reasons why small sample sizes may not be the cause for concern simple application of statistical theory may suggest.

As indicated earlier, judging business surveys by the size of the sample (and by implication the expected

standard error) may be misleading. While the need to achieve realistic sample sizes (within the constraints of time and money) has been an important consideration it has also been borne in mind that "deciding what sample to use is almost always a matter more of judgement than of calculation" (Hoinville and Jowett, 1978, p.61) and "there is a danger of being bemused by sample sizes. The truth of the statement that a large sample is better than a small one, other things being equal, is accepted without question. However, other things .... are rarely equal" (Wilson, 1973, p.129). The variation in the possible results will also be governed by the potential differences within the sample. Thus larger sample sizes in the South East Dorset business survey, and in the other business surveys on which this thesis is based, may not have provided a better data base but simply increased expense.

In addition, there is a difference between accuracy and precision. The samples are small and are, therefore, potentially subject to a larger statistical error than would be the case for a larger sample (a measure of accuracy). However, the results of impact studies suggest that the level of variability is small and therefore the level of precision, or reproducability, is quite high (see Chapter Eight).

Evaluating survey design solely in terms of sample size, and implicitly inherrent standard error, is probably not the best criterion. There are other considerations in survey design which may be equally if not more important, especially since the costs of increasing sample size are disproportionately large in relation to the increase in accuracy which could be expected. There are also the problems of bias and simple error.

Problems with bias and simple error may arise because, the original sampling frame is not comprehensive for the area and it has to be assumed that within each stratum used the sample is representative of the universe even though this latter is not always known. The difference between the actual relationships occurring and the estimates made, due to these and the other difficulties involved, will never be known. Any consistent bias (resulting from non-response, selection of activity, selection of area) affecting the final results will produce distorted estimates of the values being sought.

The a priori method of both devising the sampling frame and filling it may have introduced 'errors' into the analysis. However, the sampling design has been modified (dis-aggregating broad sectors of the tourist industry, such as hotels, by size) to produce groupings which are likely to operate along similar lines in terms of, for example, staff to turnover ratios, purchasing patterns and profit to turnover ratios. As a result, it is perhaps important to repeat the point made above, that, regardless of where, and by whom, the surveys have been conducted the variability in the results, in terms of the hierarchy produced, has been quite small.

Finally, there have been two developments which may have increased the 'accuracy' of the results of impact studies and which were incorporated in the study of South East Dorset. These are the introduction of the improved sampling method in 1981 and the complementary introduction of weighting the business data before it is combined with visitor spending. The implications of these are assessed in Chapter Eight.

THE MAIN COMPONENTS OF, AND ADVANCES IN THE DESIGN OF, BUSINESS SURVEY QUESTIONNAIRES

The previous part of this chapter has detailed the main elements in the overall design of the business survey. This still leaves the question of how the information required was obtained and recorded. Obtaining the actual data raises more serious practical problems than any other aspect of an economic impact study because the analysis requires 'precise' information on wages, profits, rent, payments to other businesses located in the area and the workforce numbers and types. In specifying the way this information is to be obtained five questions have to be answered.

The first question is: should the data be obtained through personal interviews or through self-completed postal questionnaires?

The information sought is of a highly sensitive and confidential nature. As a result there is a high degree of instinctive resistance to be overcome: resistance which is increased because the data sought is detailed and in essence requires the re-interpretation of business accounts. Therefore, while a self-completed postal survey of businesses can be considered, such an approach is unlikely to result in either an adequate degree of participation or the requisite level of accuracy and detail. In almost every economic impact study, therefore, the questionnaires have been administered through personal interviews.

The second question is: how much detail should be sought during the course of the interview?

This question relates to the balance between including

as many questions as possible and not alienating the respondent. The margin for error is not large given the reluctance in many businesses to reveal, even to their own staff, information on finance. The problem is exacerbated in an economic impact study because the direct relevance of some of the questions is not always readily understood by the respondent and the information is often personally or commercially sensitive. The possibility of increasing reluctance has to be balanced against the necessity of ensuring good quality data, a requirement best achieved by a very detailed questionnaire which allows for cross-validation between answers. In practice, questionnaires have tended to err towards being longer and more detailed and complex than the analysis specifically requires but this eases doubts in confidence about the quality of the data supplied.

The third question is: to which time period should the data collected refer?

In a perfect situation the data would cover more than one year, would cover the same period for all businesses and would cover the same period as that in which the visitor survey was undertaken. In practice it has been accepted that this is not possible. As a result the data has been collected for the most recent year available, although generally the data is never more than two years old, and subsequently adjusted using price indices.

The fourth question is: what format/layout of the questionnaires should be used?

In the early studies (pre-1980) the questionnaires adopted the traditional approach with the questions being included on the questionnaire. However, since

1982, the design has separated the questions from the sheet on which the answers are recorded. This has enabled the better cross checking of the data during the interview. It has also enabled more detailed guidance to be given to the interviewer, in note form, to ensure the correct interpretation of the information required. Examples of both types of questionnaire are provided in the appendix to this chapter. The first questionnaire was the one adopted for the study of Edinburgh (Vaughan, 1977a) and the second the one adopted for South East Dorset (Vaughan, 1985).

AN EVALUATION OF THE DATA AND THE ADVANCES IN THE DESIGN OF THE QUESTIONNAIRE

In the context of this chapter the relevant overall objectives of the questionnaires were to secure sufficient information to enable the estimation of the average relationship for each type of business between turnover and income, by way of for example wages, and turnover and purchases made from suppliers based locally.

The financial data used in multiplier analysis are those contained in the Profit and Loss Accounts of businesses. In the short space available a systematic treatment of accounting theory is not possible. Nor perhaps is it relevant as the concern in this thesis and in impact analysis is on the interpretation of the accounts rather than in the practical problems of book-keeping.

However, it is necessary to be aware that the traditional concern of accounting has been to provide an historical record of events. The task of accounting

has been to organise very large quantities of information into forms which meet legal requirements and may be useful in monitoring the progress of the business and planning its future. The problem in multiplier analysis has been interpreting the data contained in the accounts to do the required job. There are four main considerations in this.

Firstly, accounts are not prepared for multiplier analysis but are prepared for quite different purposes and this results in two problems. The main problem is that because accounts are prepared for taxation purposes some components will tend to be undervalued and others over-valued. This is a particular problem in those enterprises such as small guest houses where there is not a clear distinction between the household (the person) and the enterprise. There is no way of counter-acting the 'bias' introduced by the purpose and nature of accounting, particularly in respect of the calculation of profit. The data has to be accepted largely as it stands. A second, and more minor, problem is that there is no geographical record of where the purchases listed in the accounts were made. This is a minor problem because a solution is available, albeit a time-consuming solution. The solution is to refer to 'invoices' in order to provide the information required.

Secondly, the data for individual establishments will relate to different financial years and therefore in the analysis it is necessary to incorporate adjustments based on price indices. In the South East Dorset study for example, the financial data was standardised to July 1985 values using the General Index of Retail Prices. In this study only one index was used for all elements of the questionnaire. In other studies, for example the study of Scotland, an index of average

earnings and an index of wholesale prices have also been incorporated in the adjustment procedure. It is unlikely that this difference has caused any significant change in the results in South East Dorset as compared with other studies, as will be demonstrated in Chapter Eight.

Thirdly, there may be missing values. The main missing values are generally the deductions from income for national insurance and for income and corporation tax. For the South East Dorset study, for example, the deductions were calculated on the basis of allowances and rates for the appropriate year. For wages/salaries and the 'drawings' of proprietors the calculation was based on the numbers employed in each category of worker (questions 6 and 7) and the average wage rates/eligibility for national insurance contained in question 8. The degree of likely 'error' in estimating local income by over-estimating the deductions can be judged from the results presented later in Table 5.4.

Fourthly, there is ensuring that the data collected are relevant and 'accurate'. It is in ensuring these that, as mentioned in the previous section, there has been a major change. This change consisted of the complete revision of the questionnaire in 1982. The changes which took place in this revision were aimed, firstly, at ensuring consistency in the answers provided while the interview was taking place and, secondly, to accommodate the increasing concern of policy-makers to have information on who receives the income as well as on how much income. The differences can be observed in a comparison of the questionnaire used in the Edinburgh study in 1976 and the questionnaire used in the South East Dorset study in 1985. Both questionnaires are included in the appendix to this chapter.

Prior to 1982, as indicated above, the business questionnaire had been of a traditional questionnaire format. Thus the questions and the answers were recorded on the same sheets. In the case of the Edinburgh questionnaire the result was that the relevant information was recorded over three pages. This meant that there was no way of easily checking, during the interview, whether the information provided was consistent, without breaking the flow of the interview.

Since 1982, however, as shown by the South East Dorset Questionnaire the questions and the answers have been separated. As a result two advantages were provided.

Firstly, the data is now recorded on only one side of paper. This allows for continuous cross checking for consistency during the course of the interview. For example, a check on whether the total cost of goods and services purchased equals the sum of the component goods and services. This may seem trivial but in terms of the difficulties involved in going back to the respondent, both in terms of time and embarrassment to the respondent, and the quality of the resulting data was a substantial improvement.

Secondly, as the questions and the answers are separate it means that it has been possible to provide more guidance on the subject of the question. This was of course possible prior to 1982 but the number of sheets of paper required was prohibitive and awkward to use during an interview. By providing substantial guidance to the interviewer, as well as the respondent, the relevance, coverage and accuracy of the data is improved.

For example guidance has been provided on profit. The

nature of profit is a matter full of difficulties both for the accountant, who must consider its definition in the accounts, and for the economist, who is concerned with the factors which give rise to it. However, even within the accounts there are various 'types' of profit. Gross profit is, roughly, the difference between turnover and the variable costs of production (the cost of purchases after adjustment for stocks). Net profit is calculated by deducting from gross profits all other costs. In a multiplier study it is basically net profit that is of interest. However, to ensure that the respondent gives the complete answer required it is necessary to extend the scope of the answer required and to define the profit figure required as one which includes salaries paid to directors of private limited companies plus any national insurance contributions. In addition it is also necessary to ensure that the interviewer is reminded when collecting the data on profit that where there is more than one establishment in the same business central administration payments are a way of re-distributing profits between establishments to minimise taxation liabilities. Thus it is necessary to clarify whether this is the case and if so to adjust the profit figure initially given in order to obtain the 'correct' value for net profits rather than net 'trading' profits.

In addition to the definition of profit there has also been the concern since 1981 with the use to which the profit might be put. Therefore, the questionnaires needed to allow for the separation of 'drawings' from 'retained capital'. The guidance notes were able to contain detailed definitions of each of these (given in the appendix to this chapter). Again this may seem trivial but it ensures that the answers are consistent regardless of the interviewer and are always presented

to the respondent in the same way.

INCOME CREATION BY BUSINESSES IN BOURNEMOUTH

This chapter has so far discussed the equations used, and the collection of the information required, to provide quantitative estimates of the impact of visitor spending on local business activity, as measured by the purchasing locally by businesses, and on incomes to local residents. The chapter has examined the development of the methodology and the strengths and weaknesses.

This final section provides a brief resume of the results obtained from the Business Survey conducted in South East Dorset in respect of Bournemouth businesses as an illustration of the results obtained. It concentrates on the results obtained for income as the South East Dorset study did not analyse purchasing separately. Analysis of an analysis of purchasing in another study is detailed in Chapter Nine.

The hypothesis on which a business survey is undertaken is that different types of business allocate different proportions of their turnover to different uses, for example purchasing food for resale, paying wages and profit. These differences combine with the differences in the pattern and level of spending by different types of visitor to give each type of visitor a different level of impact on the economy. However, in the studies prior to that of the national parks (TRRU, 1981) the results of the business surveys were not highlighted separately. The introduction of this separate consideration in research reports considerably enhanced understanding of the economic impact of visitors as is

illustrated in Chapter Nine. This section, however, simply illustrates the type of results produced to provide a less abstract example, as compared with the discussion above, of the results produced by the methodology.

It should be noted, however, that to an extent the results provided depend of the way in which businesses have been grouped. The potential variation from these results is most significant in the category of 'retail' which combines foodshops and souvenir shops and department stores with small local newsagents. In a thesis which is available without restriction confidentiality requirements constrain the level of dis-aggregation possible.

The Importance of Tourism to the Businesses

Tourist spending is important because it contributes to the viability of businesses in Bournemouth. The extent to which tourism is important, however, varies between businesses. For example, for a hotel it is the basis on which the business is based while for a restaurant or a shop it can be the difference between a viable and a non-viable enterprise. A broad indication of the different levels of importance of tourism to different types of business can be gained from a comparison of the seasonal pattern of turnover as given in Table 5.2.

The Direct Contribution to Local Incomes

The different types of business in which tourists spent their money differed in respect of the conversion of turnover into income, as shown in Table 5.3. This table demonstrates, for example, that while a hotel with more than 10 bedrooms pays out £23 of local income (after deductions) from every £100 of turnover a

TABLE 5.2: The Quarterly Pattern of Turnover of Tourist-Related Businesses in Bournemouth.

Type of Business	Time of Year				
	Jan -Mar	Apr -June	July -Sept	Oct -Dec	Total
	Proportion of Annual Turnover (%)				
Hotel*	13	29	41	17	100
Hotel/Guest House+	6	20	61	11	100
Rented Accommodation	9	21	55	15	100
Restaurant/ Public House	13	22	47	19	100
Retail	20	20	30	29	100

* Hotels with more than 10 bedrooms.
\+ Guest Houses and Hotels with less than 11 bedrooms.

TABLE 5.3: The Direct Income, Net of Tax, Provided to Residents of Bournemouth and South East Dorset by Tourist-Related Businesses in Bournemouth.

Type of Business	Area		
	Bournemouth	Rest of SE Dorset	Total for SE Dorset
	Income Per £100 of Turnover		
Hotel*	22	1	23
Hotel/Guest House+	27	-	27
Rented Accommodation	27	0	27
Restaurant/ Public House	16	2	18
Retail	9	2	10

* Hotels with more than 10 bedrooms.
\+ Guest Houses and Hotels with less than 11 bedrooms.
\- Less than 0.5%.

TABLE 5.4: The Amount of National Insurance, Income Tax and Corporation Tax Paid on Direct Income Earned from Bournemouth Businesses.

Type of Business	Amount Paid
	Pounds per £100 of Turnover
Licensed Hotel*	10
Hotel/Guest House+	4
Rented Accommodation	7
Restaurant/Public House	6
Retail	4

* Hotels with more than 10 bedrooms.
\+ Guest Houses and Hotels with less than 11 bedrooms.

restaurant/public house in contrast pays out £18.

This income, however, is less than that actually earned in, and by, businesses located in South East Dorset for three reasons. Firstly, some businesses were not 'local' but had head offices located elsewhere in the United Kingdom. In these cases the profit/rent element was remitted out of South East Dorset and therefore did not comprise a part of local income. Secondly, the government 'taxed' earnings through National Insurance Contributions (employers and employees) and income and corporation tax. Thirdly, Bournemouth drew in some workers from outside South East Dorset. As a result the income of these workers cannot be considered 'local' income.

While the elements of income which leave South East Dorset through wage, profit and rent payments are easily measured during the business interview a possible area of concern in respect of the 'accuracy' of the information on local income net of deductions is that national insurance contributions and taxation have to be estimated. This may result in either an over or under estimate of local income depending on whether the deductions are over or under estimated.

Table 5.4, however, provides some guidance on the extent of any over-estimation of deductions by providing values for deductions for every £100 of turnover. The values do not relate to all incomes from the businesses, simply incomes paid to local residents or accruing locally because the business is based in the area in respect of the location of its head office.

The Division of Direct Income into Different Types of Income

The businesses paid out income to employees for their labour and to owners both for their labour (if supplied) and for the investment of capital. Thus income accrues to different people and may be paid out in the form of wages/salaries, profit and rent (table 5.5).

As indicated earlier the form which income takes is important. Wages, after allowance for taxation, form the disposable income of employees most of which will be used for consumption purposes. Profit can be paid out either as drawings or retained within the business as an addition to capital (surplus earnings in the table). If it is paid out as drawings then it forms part, or all, of the disposable income of the owner and will be used for consumption. If it is treated as an addition to capital then it may be used for investment or other purposes at a later date.

As shown in Table 5.5 there were differences between businesses in the proportions in which local 'income' was divided between the different types of income. Thus for hotels with 11 or more bedrooms wages/salaries formed a substantially higher proportion of the income paid out to people living in South East Dorset than they did for hotels of less than 11 bedrooms (including guest houses).

The Multiplier Effect on Incomes

The businesses in which visitors spent their money did not exist in isolation but made purchases of goods and services from other businesses. If these businesses were also located in South East Dorset then the

TABLE 5.5: The Division of Direct Income, Net of Tax, Provided to Residents of South East Dorset by Tourist-Related Businesses in Bournemouth.

Type of Business	Type of Income				
	Wages/ Salaries	Drawings	Surplus Earnings	Rent	Total
	Proportion of Income (%)				
Hotel*	67	9	19	5	100
Hotel/Guest House+	9	64	26	0	100
Rented Accommodation	14	61	24	0	100
Restaurant/ Public House	79	5	14	2	100
Retail	63	21	10	6	100

* Hotels with more than 10 bedrooms.
\+ Guest Houses and Hotels with less than 11 bedrooms.
\- Less than 0.5%.

TABLE 5.6: The Proportion of Turnover Used, by the Businesses in Bournemouth, to Make Purchases from Other Businesses in South East Dorset.

Type of Business	Proportion of Turnover
	%
Hotel*	20
Hotel/Guest House+	39
Rented Accommodation	12
Restaurant/Public House	11
Retail	18

* Hotels with more than 10 bedrooms.
\+ Guest Houses and Hotels with less than 11 bedrooms.

spending of tourists in Bournemouth businesses would generate activity in other sectors of the economy and the economic impact would be increased. These purchases may also in their turn have stimulated further purchases.

Table 5.6 provides information on the purchasing patterns of selected businesses in Bournemouth. The level of the purchasing from local suppliers varied between the types of business.

These payments for local goods and services, and the subsequent purchases by suppliers, form the basis, along with income earned at any of the three stages of circulation of money in the economy (direct, indirect and induced) of the 'multiplier' effect on incomes.

Owing to the different amounts of turnover devoted to local income by different business and the different extent to which different business link into the local economy the total income created by each type of business shown in Table 5.7 differs. The range is quite large with self catering establishments, for example, resulting in £30 of local income for every £100 of turnover compared with £13 for shops.

It is also possible, using proportional multiplier analysis, to demonstrate the stage at which the impact on incomes occurs. Thus in Table 5.7 the three stages of income creation: direct, indirect and induced: are presented. The important point to note, both for policy purposes and in terms of considerations of the size of sample during a proportional multiplier, is that the direct effect constitutes the greater part of the impact: in these examples over three-quarters.

TABLE 5.7: The Total Income, Net of Tax, Provided to Residents of Bournemouth and South East Dorset by Tourist-Related Businesses in Bournemouth.

Type of Business	Stage of Income Creation			
	Direct	Indirect	Induced	Total
	Pounds of Income per £100 of Turnover			
Licensed Hotel*	23	1	2	26
Hotel/Guest House+	27	3	2	32
Rented Accommodation	27	1	2	30
Restaurant/Public House	18	1	1	20
Retail	10	1	1	13

* Hotels with more than 10 bedrooms.
\+ Guest Houses and Hotels with less than 11 bedrooms.

CONCLUSION

An economic benefit is best understood as an "increase in the wealth or income, measured in monetary terms, of people located in an area over and above the levels that would prevail in the absence of the activity under study" (Frechtling, 1987, p328). This increase can arise in a number of ways as given in the introduction to this chapter. However, in all studies of the economic impact of visitors the concern has been with the impact of the spending by visitors.

This chapter has been concerned with the evaluation of the method by which the circulation of money in local economies as a result of visitor spending has been analysed. In particular it has been concerned with the measurement of the income produced for local residents or local businesses, if their head office is located in the area under study, at each stage of the circulation of money: direct, indirect and induced.

In Chapter Two a number of criteria were put forward by which the methods of estimating local economic impact might be evaluated. Such criteria are equally applicable in the context of individual elements of an economic impact study. In the context of this chapter, and the development of the methodology to estimate the impact on incomes, the criteria which are relevant are those comprising the cost effectiveness (in terms of meeting the objectives set by policy makers) of the study and the specification of the model and the data.

This chapter has demonstrated that the business-related element of studies of the economic impact of visitor spending have been progressively modified both to meet the needs of policy-makers and to make the model and its application more accurate. Thus there has been the

development of the model to provide information on who receives income (in the broad sense as measured by the type of income). There have also been the improvements to the design of the surveys, with the introduction of more complex stratified sampling and the associated weighting of the data obtained, and to the layout and content of the questionnaires. This gradual development is further explored in the next chapter on jobs.

APPENDIX

BUSINESS SURVEY QUESTIONNAIRES

THE ECONOMIC IMPACT OF TOURISM IN EDINBURGH AND THE LOTHIAN REGION, 1976.

Business Proprietor Survey

Financial/Calendar Year .....

Type of Business .....

Interviewee is: a) Owner b) Manager c) Tenant d) Other .....

Business registered as: a) Sole proprietorship
b) Partnership
c) Private Company
d) Public Company

People in paid employment (During Relevant Accounting Year)

A. All Year

		Male		Female		Time
	Total	Adult	Juvenile U/16	Adult	Juvenile U/16	Hours
Total						
Full-Time						
Part-Time						

B. Part Year

		Male		Female		Time
	Total	Adult	Juvenile U/16	Adult	Juvenile U/16	Hours
Total						
Full-Time						
Part-Time						

C. Number of staff not resident in the Lothian Region at time of job application:

Permanent:	Temporary:
Scotland	Scotland .....
U.K.	U.K. .....
Elsewhere	Elsewhere .....

D. Number of employment vacancies (FOR FULL YEAR)

Permanent (Full-time)	Permanent (Part-time) .....
Temporary (Full-time)	Temporary (Part-time) .....

Work done by family (unpaid)

	Hours (day equivalent)/week	week/year
Wife/Husband		
Children		
Other		
.....		

(THE FOLLOWING INFORMATION SHOULD ONLY RELATE TO RECURRENT EXPENDITURE)

Total wages paid .....

Employer's payments towards social security and taxes .....

Employee's payments towards social security and taxes .....

Total payments to suppliers:	Purchases	Replacements
	.....	.....
	.....	.....

(Please note: Payments outside Scotland for the following sections to be lumped together and stated later)

1) Payments to retail suppliers:

	Purchases £	Replacements £
City		
Region		
Scotland		

2) Payments to wholesalers:

	Purchases £	Replacements £
City		
Region		
Scotland		

3) Payments to manufacturers:

	Purchases £	Replacements £
City		
Region		
Scotland		

4) Payments to motor expenses (excluding insurance)

	£
City	.....
Region	.....
Scotland	.....

5) Payments to utilities:

	£					
	Gas	Electricity	Post Office	Insurance	Water	Other
City	.....	.....	.....	.....	.....	.....
Region	.....	.....	.....	.....	.....	.....
Scotland	.....	.....	.....	.....	.....	.....

6) Payments to Contractors:

	Repairs £	Capital Expenditure £ (Structural additions to existing buildings - not new purchases of land and buildings)
City	.....	.....
Region	.....	.....
Scotland	.....	.....

7) Other Payments:

	£
City	.....
Region	.....
Scotland	.....

8) Payments made outside Scotland:

£
.....

Rates paid to local authority: .....

Rent ..... City..... Region ..... Scotland .....

Elsewhere .....

Total Cash Payments (not including depreciation or interest on loan capital)

.....

.....

Total turnover .....
.....

Monthly breakdown of turnover:

Jan.	Feb.	March	April	May	June
.....	.....	.....	.....	.....	.....
July	Aug.	Sept.	Oct.	Nov.	Dec.
.....	.....	.....	.....	.....	.....

NET Profit (before tax) .....
.....

NET Profit Margin .....
.....

Geographical Distribution of profits:

	Percentage
City	.....
Region	.....
Scotland	.....
Elsewhere	.....

Average Tax Figure for last 3 years

.....

DRV Research

BOURNEMOUTH AND S.E. DORSET ECONOMIC IMPACT STUDY.

Confidential

---

(1) Code | (2) Date | (3) Type | (4) Number | (5) Year

(6) All Year Jobs | (7) Seasonal Jobs | (8) £ Per Week

	(6) All Year Jobs					(7) Seasonal Jobs					(8) £ Per Week			
	Tot	MPT	MFT	FPT	FFT	Tot	MPT	MFT	FPT	FFT	MPT	MFT	FPT	FFT
(a) Own														
(b) Adm														
(c) Dir														
(d) Sup														
(e) Tot														

(9) Place of Residence of Staff

	Bournemouth					Rest					Elsewhere				
	MPT	MFT	FPT	FFT	SEA	MPT	MFT	FPT	FFT	SEA	MPT	MFT	FPT	FFT	SEA
(a) Own															
(b) Adm															
(c) Dir															
(d) Sup															

(10) Turnover | (11) V.A.T. | (12) Quarterly Turnover

	(a) Total	(b) Bourne	(c) Rest	(c) Other
(13) Food wholesale				
(14) Drink wholesale				
(15) Other Manuf/Whole				
(16) Retail				
(17) Repairs				
(18) Other				
(19) Total				

(20) Total Value Added

	Gross	N.I.	Tax
Wages FT			
Wages PT			
Profit			
Rent			
Rates			
Total			

(21) Net Local Value Added

	Total	Bourne	Rest	N.I.	Tax
Wa					
Dr					
Pr					
Re					
Ra					
To					

QUESTIONS AND GUIDANCE NOTES TO QUESTIONNAIRE

1) **Code Number for Business?**

2) **Date of Interview?**

   a) Month
   b) Year

3) **Type of Business?**

   In box (a) types are:

   1) Hotel 101+ bedrooms
   2) Hotel 51-100 bedrooms
   3) Hotel 11-50 bedrooms
   4) Hotel 1-10 bedrooms
   5) Guest House
   6) Rented Self Catering
   7) Private House (B&B)
   8) Camp/Caravan Site
   9) Restaurant
   10) Public House
   11) Department Store
   12) Food Shop
   13) Other Retail
   14) Visitor Attraction (museum etc)
   15) Theatre/dance/cinema/bingo etc
   16) Local Authority Facility
   17) Food Suppliers
   18) Drink Suppliers
   19) Other Suppliers
   20) Building Contractors

   In box (b) types are:

   1) Sole proprietorship/partnership
   2) Private limited company
   3) Public limited company

   In box (c) locations are:

   1) Bournemouth
   2) Poole
   3) Christchurch
   4) Purbeck
   5) Wimborne

   Put the appropriate numbers in each box.

4) **How many establishments are included in the information provided?**

5) **To which calendar/financial year does the information provided relate?**

The data is for year ending: month in box (a), and year in box (b).

6) **How many all-year jobs were provided in the business in the financial/calendar year?**

For each type ask:

a) How many worked in the business?
b) How many were male and of these how many worked full-time and how many part-time?
c) How many were female and of these how many worked full-time and how many part-time?

The categories in the questionnaire are:

a) "Own" equals owners and includes directors of private limited companies.
b) "Adm" equals managerial and office staff.
c) "Dir" equals waiters/waitresses, barstaff, shop assistants, receptionists etc.
d) "Sup" equals porters, cleaners, chefs etc.
e) "Tot" equals the total number in each classification.

and

a) MPT equals male part-time
b) MFT equals male full-time
c) FPT equals female part-time
d) FFT equals female full-time

7) **How many additional jobs were necessary to cope with additional business during the summer?**

Question format/classifications the same as for question 6.

Additional (seasonal) jobs are those of less than 6 months duration which are required during the summer months as a result of increased trade.

8) **What were the average weekly earnings (excluding employers N.I. contributions) in each of the workforce categories shown?**

Question format/classifications as for question 6.

Ensure that if average wages not given that number and types of staff not eligible for NI contributions are recorded.

9) **Where do members of the workforce live?**

As in format of question 6, ask how many of each type of workforce member live in each of the areas listed:

a) Bournemouth.
b) "Rest" of S.E. Dorset excluding Bournemouth.
c) "Elsewhere" is all other areas.

The additional job classification "SEA" equals seasonal

10) **What was the total turnover of the business (including VAT if paid)?**

11) **What was the amount paid for VAT?**

12) **What was the quarterly turnover of the business?**

Quarters are:

a) January to March
b) April to June
c) July to September
d) October to December

13-19) **How much did the business pay out for each of the items shown?**

For each type of business cost ask:

a) How much was paid out in total (for "purchases for resale" - Q.13, 14 and 15 - this amount is after adjustment for opening and closing stocks)?
b) Of this amount (a) how much was paid to suppliers located in Bournemouth?
c) Of this amount (a) how much was paid to suppliers located in South East Dorset, excluding Bournemouth?
d) Of this amount (a) how much was paid to suppliers from elsewhere?

The location of the supplier is defined as where the supplies are delivered from.

Retail is those goods which are not bought from a manufacturer/wholesaler. Repairs covers maintenance undertaken by building/electrical contractors who are not employed as part of the business. Incorporate any "head office administrative costs" as appropriate.

20) **What was the total value-added by the business in the form of wages, profit, rates, rent?**

Part-time and full-time employees **Wages** (including salaries) are:

a) Gross (total) wage costs to business including employers national insurance contributions.
b) National insurance contributions by the employer and the employee.
c) Income tax payments.

It may not be possible for the respondent to provide details of employee N.I. contributions and income tax. If this is the case ensure that question (8) is answered fully.

Profit is before tax and includes salaries paid to directors of private limited companies and any national insurance contributions. Also take account of central administration payments where there is more than one establishment, i.e. note the differentiation between trading and net profits in some businesses.

Rent is payment for land or property. Some companies may be paying this to themselves.

Rates is the payment to the local authority. It probably includes water rates. Make a note of the amount of water rates and indicate whether or not included.

21) **Of each of, wages, profit, rent, etc., how much was paid to residents of the local area?**

For each of the types of income:

a) How much was paid in total to residents of Bournemouth and S.E. Dorset (net of deductions: employers and employees N.I. contributions and income tax)?
b) How much was paid to residents of Bournemouth (net of deductions: employers and employees N.I. contributions and income tax)?
c) How much was paid to residents of S.E. Dorset excluding Bournemouth (net of deductions: employers and employees N.I. contributions and income tax)?
d) How much was paid to cover employers and employees N.I. contributions?
e) How much was paid out in the form of income tax?

The categories of income listed are:

a) "Wa" is the wages paid to staff.
b) "Dr" is Drawings and is the amount taken out of the business by owners (including directors of private limited companies) for use as disposable income. Deductions include N.I. contributions.
c) "Pr" is Retained Capital and is the amount of profit retained within the company (an "addition to capital").
d) "Re" is the Rent paid on property.
e) "Ra" is the Rates paid to the local authority.
f) "To" is the Total local income.

While the questionnaire is laid out as it is it may not be possible for the respondent to answer in this way directly. It may be the case that the figures will need to be adjusted into this format after the interview.

CHAPTER SIX

THE WORKFORCE OF TOURIST RELATED BUSINESSES

INTRODUCTION

Over the last decade the contribution that tourism can make to employment in the national and the local context has been increasingly recognised. In 1979 it was stated in the Department of the Environment Circular, "Local Government and the Development of Tourism", that:

> "we need to look at the service industries, of which tourism is a notable example, as an additional and important source of....work and that local authorities should do more by the re-deployment of resources to realise the full potential of tourism to create and sustain jobs" (DOE, 13/79).

Thus in this document and others tourism has been portrayed as having the potential to provide jobs in areas where there are typically few alternative sources of employment. It is this potential, plus remedying the deficiencies in official statistics on jobs in tourism, that the studies of the economic impact of visitor spending have sought to measure.

The previous chapter has gone into depth on the design of a proportional multiplier study and there is no intention of repeating the elements already covered in relation to measuring the circular flow of visitor spending in this chapter. The intentions of this chapter are to examine the reasons why proportional

multiplier analysis has been the preferred method of estimating the size of the tourist-related workforce in local communities and to examine the development and application of the technique.

THE NEED FOR LOCAL MEASURES OF TOURIST-RELATED JOBS

For most industries the Census of Employment is the main source of information about the level and type of employment. The Census of Employment collects and compiles statistics on 'employees in employment'. Between 1971 and 1979 (inclusive) there was a full census every 3 years, conducted in June, and a part census in the intervening years. In the part census years establishments with less than 11 employees were excluded from the Census and estimates of the number of employees in these establishments were made. Since 1981 the Census has been conducted in September and the part censuses have not been conducted. For the intervening years estimates have been made based on the Labour Force Survey. The most recent census year was 1984.

The Weaknesses in the Census of Employment in respect of Measuring the Tourist-Related Workforce

The Census of Employment on its own does not provide an adequate and complete measure of the size and structure of the tourism-related workforce. This is a result of both the nature of the Census and the nature of the tourism industry.

Firstly, the Census is based on 'employees in employment'. As a result the Census does not cover working proprietors who may be expected to form a large

component of the tourism workforce as shown in the final part of this chapter. Similarly, the coverage of the Census of Employment excludes such activities as offering bed and breakfast accommodation in private houses.

Secondly, 'tourism' is not a classification used in the Census of Employment. Tourism describes a type of consumption and not a single productive activity. Therefore tourism-related employment is spread over a range of Class, Group and Activity Headings such as transport, retailing, hotel accommodation and so on as shown in Table 6.1. In each of the businesses comprising the Headings in Table 6.1 there are different levels of dependence on visitor spending as a source of turnover and, therefore, different proportions of jobs attributable to tourism.

Thirdly, in 1984 only a sample of establishments with less than 20 employees was included in the Census of Employment. A large part of tourist-related employment occurs in establishments of less than 20 employees and therefore there may be problems in interpreting the results for tourist-related sectors. In Cumbria in 1981, for instance, 60 per cent of employees and 92 per cent of establishments in what may be broadly taken to be tourist-related activities: Retail (MLH 820, 821, 889, 895), Entertainment (MLH 881, 882, 883), Hotels (MLH 884) and Restaurants and Public Houses (MLH 885, 886): had less than 20 employees.

Fourthly, the Census of Employment is currently conducted in September and was previously undertaken in June. Therefore seasonal employees may or may not be included and, depending on the area, they may comprise a large part of the workforce.

TABLE 6.1: Tourism-Related Class and Activity Headings in the 1980 Standard Industrial Classification.

Class		Activity*	
Number	Heading	Number	Heading
64	Retail Distribution	6410	Food Retailing
		6420	Confectioners, Tobacconists and Newsagents. Off-Licences
		6430	Dispensing and other Chemists
		6450	Retail Distribution of Clothing
		6460	Retail Distribution of Footwear and Leathergoods
		6480	Retail Distribution of Household Goods, Hardware and Ironmongery
65	Retail Distribution	6520	Filling Stations (Motor Fuel and Lubricants)
		6530	Retail Distribution of Books, Stationery and Office Supplies
		6540	Other Specialised Retail Distribution (Non-Food)
		6560	Mixed Retail Businesses
66	Hotels and Catering	6611	Eating Places Supplying Food for Consumption on the Premises
		6612	Take-away food shops
		6620	Public Houses and Bars
		6650	Hotel Trade
		6670	Other Tourist or Short-Stay Accommodation
71	Railways	7100	Railways
72	Other Inland Transport	7210	Scheduled Road Passenger Transport and Urban Railways
		7220	Other Road Passenger Transport
74	Sea Transport	7400	Sea Transport
75	Air Transport	7500	Air Transport

TABLE 6.1 cont'd: Tourism-Related Class and Activity Headings in the 1980 Standard Industrial Classification.

Class		Activity	
Number	Heading	Number	Heading
76	Transport: Supporting Services	7610	Supporting Services to Inland Transport
		7630	Supporting Services to Sea Transport
		7640	Supporting Services to Air Transport
77	Miscellaneous Transport	7700	Miscellaneous Transport Services and Storage not Elsewhere Specified
96	Other Services	9690	Tourist Offices and Other Community Services
97	Recreational Services	9711	Film Production, Distribution and Exhibition
		9741	Radio and Television Services, Theatres, etc.
		9770	Libraries, Museums, Art Galleries, etc.
		9791	Sport and Other Recreational Services
98	Personal Services	9812	Dry Cleaning and Allied Services
		9820	Hairdressing and Beauty Parlours.

* Some Activity Headings in the Classes have been omitted as they could not be considered likely to have a tourism component.

Fifthly, the statistics, which are produced for each Employment Exchange Area (EEA), are subject to restrictions on access/publication which are designed to protect confidentiality. The statistics produced through the Census of Employment are generally restricted to 'accredited users', or those with access through Section 4(3)(F) of the Employment and Training Act (1973). Prior permission is required to publish the results of analysis based on Census of Employment data.

ALTERNATIVE METHODS OF MEASURING THE NUMBER OF TOURIST-RELATED JOBS

As witnessed above, and despite the apparent wealth of official information on jobs within the economy, there has been a need for the development of a method by which the number of people in the tourist-related workforce can be measured.

In addition to the proportional multiplier method which is the main subject matter of this thesis there have been two other methods, in addition to those discussed in Chapter Two, which have been used to provide estimates of the number of jobs. However, each of these alternative methods has drawbacks which mean that using proportional multiplier analysis, despite its limitations, has been the preferred method.

Using the Proportion of Spending

There are a number of variations to this simple method but the most common is based on combining estimates of the distribution of tourist spending nationally with national estimates of employment. Such an estimate of tourist-related jobs in the United Kingdom was produced

by Morrell (1985) by combining national statistics on, for example, tourist spending, employment in selected Headings of the Census of Employment and the Commodity Accounts as published in the "Employment Gazette" (Department of Employment).

Thus using this method, if the sub-national area accounts for 10 per cent of visitor spending nationally and 1.2 million people are thought to be employed nationally in tourism, for example, then the local workforce in tourism is estimated to be 120,000 (10 per cent of 1.2 million).

This is obviously a very simplistic method of estimating the size of the local tourist-related workforce. The main problem is the assumption that each area has the same pattern of tourism spending as the national pattern. On the contrary, however, different areas have different combinations of tourists who have different spending patterns which combine different types of businesses in different combinations. In addition, the types of business found in each area are likely to vary considerably between, for example, those locally owned and those that are part of a national company. The pattern of businesses will have a significant effect on the level of linkage to the local economy.

Using the Census of Employment

The second method is to construct estimates of the size of the tourism-related workforce using the Census of Employment as a starting point. This method has four incremental stages aimed at estimating the number of employees in employment, the number self employed, the size of the seasonal workforce and the multiplier effect on jobs.

The first stage is the calculation of 'employees in employment' who serve tourists directly and are covered by the Census of Employment. This stage consists of two parts. The first part is the selection of the Class/Group/Activity Headings which have a tourism-related element. The second part is the calculation of the number of jobs within each of these Headings which are tourist-related. This calculation is based on the use of 'weights' which reflect the proportion of employment which is thought to be tourist-related within each heading. Both of these parts will tend to be subjective rather than objective.

The first part of the calculation of employees in employment will tend to be arbitrary because some Headings will only be marginally affected by tourism. The Headings which will generally be considered are shown in Table 6.1.

The second part of the calculation will be arbitrary because for each of the Headings it is necessary to assign weights which reflect the proportion of employment which is tourist-related. The weights have been derived in three ways, each of which are open to question.

Firstly, weights have been assigned on the basis of the local knowledge. This method is obviously guesswork.

Secondly, weights have been assigned through regression analysis such as that carried out in the study of Devon and Cornwall (Lewes et al, 1970). This will also tend to be arbitrary. For example, in respect of one study which used the regression method, Archer, has noted that the analysis undertaken on Devon and Cornwall made:

> "heroic assumptions....about the relationship between the number of employees and the size of turnover and number of visitors....[and]....the subjective nature of many of the adjustments made....[including]....the manner in which those results given by regression analysis which appeared intuitively to be unreasonable....[were rejected]....., and....the others....[accepted]....as correct" (1973a, pp70 and 71).

Finally, weights can be calculated on the basis of a business survey which would not be as detailed as the surveys on which this thesis is based. At its simplest such a survey would involve asking business people for the number of jobs within their business which are dependent on tourism. The answer given in respect of many businesses would probably be a well informed guess. However, for many types of business their owners and/or managers can not do more than guess at how much of their turnover is due to tourists let alone how many of their workforce have a job as a result of visitor spending. Therefore, a more complex survey and analysis would probably be necessary. In such a survey it would be necessary to collect data from which the proportion of employment resulting from tourism could be calculated. Such data could include, for example, the levels of summer turnover and winter turnover. To calculate the tourist-related employment the extra turnover in the summer months is expressed as a proportion of the annual turnover and this proportion is applied to the numbers in the workforce: summer turnover is 20 per cent higher than winter turnover and therefore 20 per cent of the workforce is tourist-related. Such proxy measures, and another example is the difference between the size of the workforce in a

summer month compared with the size of the workforce in a winter month, are open to question.

The procedure so far has not taken account of the self-employed because the Census of Employment only covers 'employees in employment'. However, the self-employed sector in tourism is extremely important as witnessed by work by, for example, Archer (1977), who estimated that 14 per cent of workers in the serviced accommodation sector in Wales were self-employed.

The second stage, therefore, involves estimating the level of self-employment associated with the 'employees in employment' already covered in Stage One and making estimates of the numbers of self-employed/working proprietors whose establishments are not covered by the Census of Employment. There are two alternative procedures in doing this: a broad brush approach or an incremental approach.

The broad brush approach is to apply a 'blanket' percentage to each Heading to cover self-employment, say 10 per cent. An estimate of the proportion of self-employed in the workforce can be gained from the Census of Population Small Area Statistics (Table 51). This estimate can be made on the basis of the results for "Distribution and Catering Services".

The incremental approach consists of two parts. In the first part different percentages representing the likely level of involvement of self-employed working proprietors are applied to each Heading. In the second part inventories of the number of private houses offering Bed and Breakfast, Guest Houses, and small Caravan/Camp sites are used as the basis for making an estimate of the self-employed workforce in those establishments not covered by the Census of Employment.

In terms of applying different percentages the results of 'multiplier' studies of tourism employment, which are the subject of this thesis, can provide some guidance for a number, but not all, the Headings. For the remainder, without additional survey work, the percentage increase adopted had to be based on a priori reasoning. Such reasoning, based on cause and effect, has been guided by the proportion of small units within the Heading: the higher the proportion of small units the higher the likely proportion of the workforce accounted for by the self-employed.

Estimates, of the number of self-employed, which are based on inventories of accommodation are subject to a number of unknowns. The first is whether or not the establishments have already been included in the Census of Employment as there are appropriate Activity Headings. This is true of guest houses and caravan/camp sites. The only guide is local knowledge of whether or not the establishments employ people. If they do then they should not be included in this stage. Even then there is still the possibility of either under-counting or double-counting. The second unknown is the number of people likely to be involved. For private houses offering Bed and Breakfast it is probably safe, given the results of multiplier studies, to assume that one person is involved per house. However, it is less clear from these studies how many people will be involved with guest houses and small caravan/camp sites. Therefore it has been assumed that either one or two people work in such enterprises.

Stage Three involves estimating the number of seasonal employees. The problem is that again there is the possibility of either under-counting or double-counting. The Census of Employment is conducted only in September. This month falls at the end of the

'tourist season' at which time there may or may not be the full complement of seasonal staff.

If it has been decided, on the basis of local knowledge, that the seasonal staff were unlikely to have been included in the Census of Employment then the procedure has been the same as for estimating the level of self employment using the results of multiplier studies. When these results have been used as they stand, however, it has been assumed that no seasonal employees were included in the Census of Employment data.

The fourth stage involves estimating the level of employment due to the 'multiplier' effect. In this context the multiplier effect is composed of two elements. Firstly, there is indirect employment in tourism, and secondly, induced employment which was described earlier in the chapter. As with the estimation of the self-employed there are two procedures by which the multiplier effect could be incorporated.

A broad brush approach could be adopted in which a single additional proportion of between 10 and 20 per cent could be used as this is the range found in multiplier studies such as those conducted in Winchester (Vaughan, 1983) and Greater Tayside (TRRU, 1974).

Alternatively, an incremental approach could be adopted with different percentages for each Heading being used. The different percentage increases can be derived from tourism multiplier studies.

MODELLING THE RELATIONSHIP BETWEEN TURNOVER AND JOBS

Both the 'alternative' methods evaluated above have considerable drawbacks in their application. They can be questioned in respect of their relevance, coverage and, as a result, their accuracy. As a result the use of proportional multiplier analysis has been, and still is, preferred. In addition proportional multiplier analysis has one further advantage. It can be used in a planning context to estimate what might happen if the pattern or level of tourism is altered. The other two methods simply document what is already there. Thus they may satisfy the advocacy objectives of local policy makers but they cannot satisfy the planning objectives.

The previous chapter described the model used in estimating the impact of visitor spending on local incomes. The analysis, however, is equally capable of providing coefficients for employment. Once a relationship has been established between turnover and employment it is possible to develop a regional employment multiplier which has three elements: direct, indirect and induced employment. The basic assumption of this model is that in a business there exists a continuous proportional relationship between turnover and employment.

Direct and Indirect Employment Creation

Calculation of the direct and indirect employment coefficients has been based on obtaining data to allow for the simultaneous resolution of a series of equations representing different types of business. The equation for each business is:

$$E_n = \frac{\sum_{d=1}^{D} E_{nd} + \sum_{i=1}^{I} P_{ni} E_i}{T_n} \qquad (1)$$

where:

E_n = the employment generation coefficient of a business of type n

E_{nd} = the direct employment in the business of type n

d = the types of direct employment

P_{ni} = the cost payments by a business of type n for the goods and services provided by the i^{th} type of local business

E_i = the employment generation coefficient (direct and indirect) of the i^{th} type of local business

T_n = the turnover of a business of type n

This equation contains two stages of impact. Firstly, direct employment in the business of type n which is given by:

$$\frac{\sum_{d=1}^{D} E_{nd}}{T_n} \qquad (2)$$

which, assuming only five types of worker, becomes, in expanded form:

$$\frac{E_{n1} + E_{n2} + E_{n3} + E_{n4} + E_{n5}}{T_n} \qquad (3)$$

where:

E_{n1} = full-time all-year workers

E_{n2} = part-time all-year workers

E_{n3} = full-time seasonal workers

E_{n4} = part-time seasonal workers

E_{n5} = casual workers

T_n = the turnover of business type n

Secondly, the formula contains indirect employment which is given by:

$$\frac{\sum_{i=1}^{I} P_{ni} E_i}{T_n} \qquad (4)$$

which in expanded form, assuming only three suppliers, becomes:

$$\frac{P_{n1} E_1 + P_{n2} E_2 + P_{n3} E_3}{T_n} \qquad (5)$$

where, for example:

P_{n2} = the cost payments made by a business of type n to a local business of type 2

E_2 = the employment generation coefficient (direct plus indirect) of a local business of type 2

Incorporating induced employment the full specification for the three stages of impact is given by:

$$\frac{\sum_{d=1}^{D}\sum_{i=1}^{I} E_{nd} + \sum_{i=1}^{I} P_{ni}\, E_i}{T_n} + G_n \left(\sum_{i=1}^{I} X_i\, E_i\right) \qquad (6)$$

where:

E_{nd} = the local employment generated directly in the n^{th} type of business

P_{ni} = the cost payments by a business of type n for goods and services provided by the i^{th} type of local business

E_i = the local employment coefficient (direct and indirect of the i^{th} type of business

G_n = the total income generation in the area resulting from purchases made from the n^{th} type of business

X_i = the proportion of local resident spending accounted for by the i^{th} type of business

THE ADVANCES IN THE MODEL

As was the case with income the equations presented above are consistent, although the components are more fully specified, with those used in the study of Greater Tayside by Henderson and Cousins (TRRU, 1975). There are, however, some differences which have already been covered in the previous chapter but which perhaps bear repeating in this context.

Firstly, the equations are for an average type of business (one which depends on tourism). The Tayside study also used equations for marginal businesses (those which are not dependent on tourism). For the

reasons given previously this division was not incorporated in the studies on which this thesis is based.

Secondly, since 1982 the results of the studies in respect of job creation have been affected by the change made to the definition of the money which is re-circulated through the modified keynesian multiplier. The effect, as shown in Chapter Eight, is to reduce the size of the induced impact.

ADVANCES IN THE DATA COLLECTION PROCEDURES ADOPTED IN RESPECT OF MEASURING THE TOURIST-RELATED WORKFORCE

Chapter Five has considered the main elements in the design of a survey of tourist-related businesses. Thus that chapter considered the method of sampling, the types of businesses to be included, preparing lists from which the sample can be drawn, setting the size of the sample, the method of approaching business people to ask for their co-operation and the other information required to adjust the survey data. As a result there is no need to repeat that discussion here. This section, therefore, covers the changes in questionnaire design which have come about to meet the needs of the commissioning agencies and to ensure that the data is relevant, has the correct coverage and is 'accurate'.

Initially the data on jobs in tourism-related businesses was collected using the format of the Edinburgh study questionnaire as detailed in the appendix to Chapter Five. Thus the main areas of concern were to obtain data on all-year and seasonal jobs in respect of whether they were full-time or part-

time and whether the workers were male or female. In addition, the questionnaire sought details of whether the jobs were filled by people who lived locally or whether they were filled by people from further afield. The amount of time involved in each job was also collected in order to provide the basis for converting the results into standardised as well as unstandardised values. An unstandardised value is one in which part-time and seasonal jobs are given the same level of importance as all-year full-time jobs. A standardised value is one in which part-time and seasonal jobs are converted into all-year full-time equivalents.

The questionnaire used in the Edinburgh study, therefore, was basically the same as that used on Tayside in respect of the information collected on the workforce. There was, however, one difference between the studies and that concerned the definition of part-year, or seasonal workers. In the Tayside study such workers were simply defined as those who were working for less than six months. In the Edinburgh study a further criterion was added so that people who were simply replacing/covering those on holiday were excluded.

In 1981, however, the requirements of the Scottish Tourist Board in commissioning the study of the impact of tourism on the economy of Scotland, resulted in a substantial modification being made to the extent of the information collected on the workforce. The change in emphasis can be illustrated quite simply by comparing the relevant parts of the briefs of each study.

For the Edinburgh study the objective was expressed simply as:

> "To measure the impact of visitor spending on employment at three levels: City, Lothian Region and Scotland".

Thus the basic concern was with providing estimates of the rate at which jobs were generated by different types of visitor and the total number of jobs created. Concern about the type of job was not as important, although results on the composition of the direct workforce were produced.

For the study of Scotland the brief was different in that it included the following questions to be answered:

a) How does the relative importance of tourism generated economic benefits vary between different types of area and where is tourism's role most important?

b) How far should tourism be seen as having a supportive role?

c) What realistic measures can be taken to improve the quality of direct tourism employment?

In providing answers to these questions the data collected about jobs had to be more complex. As a result specific information was collected about the different types of worker as shown in the extract from the questionnaire contained in the appendix to this chapter. The different types of worker were working proprietors, members of family, managerial and administrative staff, direct service staff (those who serve the public such as receptionists and waiting staff), support staff (those who do not generally come

in contact with the public such as cooks and cleaners) and casual staff.

Although simplified, this more detailed format based on the type of job performed was adopted in subsequent studies as shown in the questionnaire for South East Dorset which is in the appendix to Chapter Five. As explained in Chapter Five, however, the format of the questionnaire was altered with the questionnaire being simply a place to record the answers and with the questions and detailed guidance on the components of each question being contained on separate sheets of paper.

AN EVALUATION OF THE DATA AND ANALYSIS

In evaluating the data it is not intended, as was indicated above in respect of survey design, to repeat the more general evaluations which have already been covered in Chapter Five. This section will concern itself purely with the details of the workforce collected through the relevant sections of the questionnaire.

In collecting the data on the workforce the main consideration has been to ensure that all members of the workforce have been included. As a result, as explained above, the content and layout of the questionnaire has been modified.

A product of the requirement to provide a more detailed analysis of the direct sector is that since 1981 it has been easier for the respondent to provide 'accurate' answers in that the problem of providing numbers, especially in large enterprises, is broken down into a

series of smaller problems based on type of job, nature of employment and sex.

A problem, however, exists in that all-year and seasonal employment have to be distinguished. As indicated above the Edinburgh study made the definition of seasonal employment more 'accurate'. However there is still the difficulty of determining the number of seasonal jobs. Guidance can be provided by taking a winter month as a proxy for the base level (all-year) of jobs and subtracting the number of jobs in the winter month from the number of jobs in a summer month to find the seasonal jobs. But that result still needs to be adjusted to exclude those jobs which arise as cover for staff taking holidays.

Another, and more difficult problem is that several jobs may be undertaken by the same person with each job undertaken having different amounts of time allocated to it. This is easily solved in that people can be allocated according to their major activity. However, not so easily resolved is that it may mean that in the winter the person is only working part-time while in the summer the person is working full-time. This can be resolved either by recording the information as it stands or by asking the respondent to determine how the job should be classified.

The paragraph above foreshadows the major limitation of proportional multiplier analysis of job creation. While income and purchasing, being monetary measures, are divisible in small fractions labour is 'lumpy': a person either works or does not work. The analysis, however, is based on a relationship between turnover and jobs. As turnover goes up, with the analysis adjusted to take account of the effect of inflation on turnover, the level of employment is assumed to

increase. However, in the real world there may be thresholds involved which the model does not take into account. Thus if there is an increase in the turnover of a restaurant this may not bring about a change in the number of jobs but simply a better utilisation of the workforce.

THE WORKFORCE IN TOURIST-RELATED BUSINESSES IN SCOTLAND

This final section of the chapter is based on one study: the study of "Tourism in the Economy of Scotland" in 1980 (Vaughan et al, 1987). This study is used as the basis for demonstrating the contribution that the results make to the understanding of the the level and pattern of jobs supported by different types of business.

Before proceeding with the results of the analysis of tourist-related businesses it is necessary to explain the nature of the study. The study sought to provide a detailed analysis of the effect of tourism on local economies in Scotland and, in particular, the effect on the workforce.

The study was based on initially dividing Scotland into a number of economically distinctive types of area. This was accomplished using cluster analysis (hierarchical fusion) of local authority districts using a range of measures relating to employment structure. The outcome was a division of Scotland broadly into the North of Scotland, the South of Scotland and the Central Belt of Scotland. From each of the distinctive types of economy a district authority area was chosen as a case study area. The three chosen areas were Moray (North of Scotland), Edinburgh

(Central Belt) and Annandale and Eskdale (South of Scotland). Subsequently to ensure an adequate sample size Nithsdale was added to Annandale and Eskdale. The sample size in each type of business for each area is given in Table 6.2. These businesses were used to estimate the direct effects. The indirect effects were measured using the data obtained in the earlier studies of Greater Tayside (TRRU, 1975) and Edinburgh (Vaughan, 1977a).

The analysis conducted provided results for each of the distinctive types of economy in Scotland, some of which are detailed in Chapter Nine. However, this section presents selected results for an 'average' local authority region in Scotland: the average reflecting the structure of the businesses, the structure of the areas and the distribution of tourist spending between the three areas.

Two other guides to interpreting the results are necessary. Firstly, there are results for an average region and for Scotland. The Scotland results include the region results. Secondly, the 'all accommodation' figures include estimates for the purchases by Bed and Breakfast (Private House) businesses, Self-Catering and various other types of accommodation such as Halls of Residence and Youth Hostels which were not included in the survey. The estimates were based on the data collected during the Tayside and Edinburgh studies.

The Relationship between Turnover and the Number of Jobs in Direct Sector Businesses

The level of turnover required to support one direct job varied from £3,900 for caravan/camp sites to £71,400 for garages. The average per direct job in the accommodation sector was £6,500 compared with £14,900

TABLE 6.2: Sample Size for Economic Analysis - Number of Establishments.

Type of Business	Edinburgh	Moray	Annandale & Nithsdale
Group Hotel	7	-	-
Other Hotel	11	13	15
Guest House	6	5	6
Caravan	3	6	7
Group Retail	6	3	2
Speciality Retail	6	8	7
Independent Retail	9	9	12
Restaurant/Cafe	8	6	5
Public House	9	3	4
Garage	4	4	6
TOTAL	69	57	64

in the non-accommodation sector. Thus the number of jobs created per £1m of turnover was found to vary considerably as shown in Table 6.3.

The Types of Job Created in the Direct Sector Businesses

Consideration of the total number of jobs per £1 million of turnover in the direct sector may not give the full picture in that the total figure treats all employment as being equal. The accommodation and non-accommodation sector were found to have different workforce characteristics: the only similar characteristics being that both drew heavily on female labour. Tables 6.4 and 6.5 provide profiles of the employment created per £1m of turnover in the accommodation (Table 6.4) and non-accommodation (Table 6.5) sectors.

Based on all accommodation types the workforce of the accommodation sector consisted of 30 per cent working proprietors and family, 49 per cent all year employees and 22 per cent seasonal employees. Of these 67 per cent were female, 40 per cent were part-time and 60 per cent were full-time. This compares with the non-accommodation sector workforce of 19 per cent working proprietors and family, 75 per cent all year employees and 5 per cent seasonal employees. Of these 71 per cent were female, 53 per cent were part-time and 47 per cent full-time.

However, even within the two broad sectors there were differences between the business types. In the accommodation sector (Table 6.4) hotels had the lowest number of direct jobs per £1 million of turnover. However of the 119 jobs 92 per cent were all year. Of these 92 per cent (110 jobs) 13 were filled by working

TABLE 6.3: Employment per £1 million of Turnover in Selected Businesses.

Type of Business	Average Region				Scotland
	Direct	Indirect	Induced	Total	
	Jobs per £1 million of Turnover				
Hotel	119	18	17	154	185
Guest House	248	21	20	289	329
Caravan/ Campsite	256	32	19	308	341
Food and Drink	113	26	18	157	185
Retail	52	11	9	71	94
Garage	14	1	3	19	21
All Accommodation*	153	19	17	189	221
All Non-Accommodation	67	15	11	93	116

* Includes estimates for accommodation component of Private House (B&B), Self-Catering and other types (Halls of Residence, Youth Hostel etc.).

TABLE 6.4: The Workforce of the Accommodation Sector per £1 Million of Turnover.

Business Type/ Employee Type	Status of Workforce				
		Employees			
	Owners & Family	Direct	Support*	Seasonal	Total
	Workforce per £1m of turnover				
Hotel:					
Male full-time	6	10	10	1	28
Male part-time	1	7	3	@	11
Female full-time	5	19	15	5	43
Female part-time	1	15	17	3	36
Total	13	51	45	9	119
Guest House:					
Male full-time	29	0	0	@	30
Male part-time	23	0	0	11	34
Female full-time	72	11	9	12	92
Female part-time	5	0	21	55	91
Total	129	11	30	78	248
Caravan/Campsite:					
Male full-time	4	0	9	175	189
Male part-time	3	0	4	8	15
Female full-time	0	3	0	21	24
Female part-time	3	0	5	20	28
Total	9	3	18	225	256
All Accommodation:+					
Male full-time	13	7	7	6	35
Male part-time	6	2	5	2	15
Female full-time	23	12	12	10	54
Female part-time	4	16	12	16	48
Total	45	36	38	33	153

* Including managerial staff.
\+ Includes estimates for the accommodation component of Bed and Breakfast (Private House), Self-Catering and Other types (Halls of Residence, Youth Hostel, etc.).
@ Less than 0.5.

proprietors and their family and 96 were employees of whom 66 were female. In comparison the 247 jobs created in guest houses were largely filled by working proprietors and their family (52 per cent) and seasonal employees (31%). Caravan sites had an even more marked seasonal employment pattern with 88 per cent of employees being seasonal although in this case 78 per cent of the seasonal employees were male.

In the non-accommodation sector (Table 6.5) the general pattern of working proprietors, all-year employees and seasonal employees was similar, although the actual total requirements varied markedly. The main differences occurred in the level of male employment which may have been a reflection of the requirements of the businesses and certainly reflected traditional stereotypes. Thus working proprietors and family in food and drink establishments were predominantly male (57%) whereas the staffing was predominantly female (69%). Garages on the other hand were predominantly male in all categories of the workforce. The staff of retail outlets were predominantly female (76%) especially those who served the public directly (88% of direct staff).

The Multiplier Effect on Jobs

Finally, jobs arise in three stages: direct, indirect and induced; and their importance varies. Table 6.3 presents the three stages of employment creation per £1 million of turnover. For both the accommodation and the non-accommodation sectors jobs within an average region accounted for most of the jobs created within Scotland and direct jobs accounted for most of the regional total. The average number of jobs created in Scotland as a result of £1 million of turnover in the accommodation sector was almost double the number

TABLE 6.5: The Workforce of the Non-Accommodation Sector per £1 million of Turnover.

Business Type/ Employee Type	Status of Workforce			
		Employees		
	Owners & Family	Direct	Support*	Seasonal	Total
	Workforce per £1m of turnover				
Food and Drink:					
Male full-time	10	8	3	@	22
Male part-time	1	10	2	2	14
Female full-time	7	10	7	1	24
Female part-time	2	28	20	3	52
Total	20	56	31	7	113
Retail:					
Male full-time	4	1	3	@	7
Male part-time	2	3	1	@	5
Female full-time	2	11	5	1	20
Female part-time	3	13	2	@	19
Total	11	27	11	2	52
Garage:					
Male full-time	2	2	3	0	7
Male part-time	@	4	@	0	4
Female full-time	@	1	@	1	2
Female part-time	@	@	1	@	1
Total	3	7	4	1	14
All Non-Accommodation:					
Male full-time	6	3	3	@	12
Male part-time	1	5	1	1	8
Female full-time	4	10	5	2	20
Female part-time	2	17	7	1	28
Total	13	34	16	4	67

* Including managerial staff.

@ Less than 0.5.

created in the non-accommodation sector.

CONCLUSION

As a measure of the economic importance of an industry the power to create income and jobs are the most important indicators. This chapter has followed the consideration of income with a consideration of job generation.

To measure the impact of tourism on jobs is not easy. The main difficulty is that the tourism industry forms part of many sectors of the economy. It is an amalgam of attractions, accommodation, shops, transport, wholesalers, manufacturers and so on. In addition within each of these sectors of economic activity not all the turnover is derived from tourism. Some is derived from local residents. As a result even within these sectors of activity not all jobs are a result of tourism.

Given the above fragmentation of the components of the tourist industry and the additional problems of the significant proportion of small enterprises within the tourism industry, with the implicit relatively high levels of self employment, the official statistics on jobs as contained in the Census of Employment are not adequate. As a result proportional multiplier analysis has been developed to provide the information required by policy makers on the number of jobs in tourism and on the 'rate' at which jobs are created as measured by jobs per given unit of turnover.

This chapter has examined the equations and the data collection involved in estimating the jobs in tourist-

related businesses. It has shown that the work on which this thesis is based has done two things. Firstly, it has modified the specifications of the data collection and of the analysis in order to make the results more 'accurate' by making the coverage of the equations and the data more 'relevant' and concise. Secondly, the improvements have also met the needs of policy makers for more information about the nature of the jobs provided and of the type of person filling those jobs. In the context of providing information about the quality of the jobs in tourism and the differences between businesses this chapter has only provided a brief introduction. Chapter Nine substantially expands on the information provided in the final section of this chapter.

The information provided about businesses in respect of income (Chapter Five) and jobs (Chapter Six) needs to be combined with visitor spending data (Chapter Seven) for the full contribution of the proportional multiplier analysis to be understood. This is the subject matter of the next chapter.

APPENDIX

THE WORKFORCE ELEMENT OF THE BUSINESS QUESTIONNAIRE FOR THE STUDY OF TOURISM IN THE ECONOMY OF SCOTLAND

SECTION D: STAFFING

In the next section I will be asking for details relating to your finances for one year. On the basis of that year could you supply details on employment?

I would now like to ask you about the staffing structure of this business.

IF RELEVANT.

1. a) Could you tell me first about the owners. How many owners are there (RING NUMBER IN TABLE BELOW)?

   b) What sex are they?

   c) How many hours per week does each owner actually work in the business?

   d) During which months do they work?

   e) What job do they do?

   f) What does the business pay for this work? (monthly or weekly, specify)

   g) Where do the owners live?

   h) Whadt qualifications do they have for this work?

No.	Sex	Hours	Months	Job	Payment	Residence	Qualifications
1							
2							
3							
4							
5							
6							

2. What other members of your family work within the business?

   a) How many are there?

   b) What sex are they?

   c) How many hours does each member of the family work in the business?

   d) During which months do they work?

   e) What job do they do?

   f) What does the business pay for this work?

   g) Where do they live?

   h) What qualifications for the work do they have?

No.	Sex	Hours	Months	Job	Payment	Residence	Qualifications
1							
2							
3							
4							
5							
6							

In order to make possible comparisons between different types of business, I would be grateful if you would consider your staffing under 5 main headings, as shown on this card, managerial, direct service (skilled), direct service (unskilled), support service (skilled), support service (unskilled). I would also like to ask you about summer and winter staffing levels.

SHOW CARD.

3. a) Could you describe the managerial/administrative positions (excluding the owner) in this business? WRITE IN AT TOP OF EACH COLUMN.
   b) How many male/female do you have (READ IN FOR EACH POSITION)?
   c), d) and e) ASK FOR EACH POSITION.

	Positions - July											
	M	F	M	F	M	F	M	F	M	F	M	F
b) How many												
c) How many males/ females work												
>30 hrs per wk												
30+ hrs per wk												
	Positions - February											
b) How many												
c) How many males /females work												
>30 hrs per wk												
30+ hrs per wk												
d) Average earnings for males/females working												
>30 hrs per wk - living in												
- not living in												
30+ hrs per wk - living in												
- not living in												
e) What qualifications are required for _____												

f) When you employed those staff how many:

a) were living in the district? _____

b) came from elsewhere in Scotland? _____

c) came from elsewhere in the UK? _____

d) came from abroad? _____

4. a) What skilled positions do you have in this firm which could be described as providing direct service to the public (e.g. sales person, waitresses etc.)? - Section 2 on card.

	Positions - July											
	M	F	M	F	M	F	M	F	M	F	M	F
b) How many												
c) How many males/ females work												
>30 hrs per wk												
30+ hrs per wk												
	Positions - February											
b) How many												
c) How many males /females work												
>30 hrs per wk												
30+ hrs per wk												
d) Average earnings for males/females working												
>30 hrs per wk - living in - not living in												
30+ hrs per wk - living in - not living in												
e) What qualifications are required for _____												

f) When you employed those staff how many:

a) were living in the district? _____

b) came from elsewhere in Scotland? _____

c) came from elsewhere in the UK? _____

d) came from abroad? _____

5. a) What **unskilled** positions do you have in this firm which you would describe as providing **direct service** to the public? (e.g. porters, waiters, etc.) - Section 3 on card.

					Positions – July							
	M	F	M	F	M	F	M	F	M	F	M	F
b) How many												
c) How many males/ females work												
>30 hrs per wk												
30+ hrs per wk												
					Positions - February							
b) How many												
c) How many males /females work												
>30 hrs per wk												
30+ hrs per wk												
d) Average earnings for males/females working												
>30 hrs per wk - living in												
- not living in												
30+ hrs per wk - living in												
- not living in												
e) What qualifications are required for _____												

f) When you employed those staff how many:

a) were living in the district? _____

b) came from elsewhere in Scotland? _____

c) came from elsewhere in the UK? _____

d) came from abroad? _____

6. a) What **skilled** positions do you have in this firm which do not involve **direct service**, but could be described as **support services** (e.g., cooks, tailors, etc.)?

	Positions - July											
	M	F	M	F	M	F	M	F	M	F	M	F
b) How many												
c) How many males/ females work												
>30 hrs per wk												
30+ hrs per wk												
	Positions - February											
b) How many												
c) How many males /females work												
>30 hrs per wk												
30+ hrs per wk												
d) Average earnings for males/females working												
>30 hrs per wk - living in												
- not living in												
30+ hrs per wk - living in												
- not living in												
e) What qualifications are required for _____												

f) When you employed those staff how many:

a) were living in the district? _____

b) came from elsewhere in Scotland? _____

c) came from elsewhere in the UK? _____

d) came from abroad? _____

7. a) What **unskilled** positions do yo have in this firm which do not involve direct service, but could be described as **support services** (e.g., cleaners, dish washers, etc.)?

	Positions - July											
	M	F	M	F	M	F	M	F	M	F	M	F
b) How many												
c) How many males/ females work												
>30 hrs per wk												
30+ hrs per wk												
	Positions - February											
b) How many												
c) How many males /females work												
>30 hrs per wk												
30+ hrs per wk												
d) Average earnings for males/females working												
>30 hrs per wk - living in												
- not living in												
30+ hrs per wk - living in												
- not living in												
e) What qualifications are required for _____												

f) When you employed those staff how many:

a) were living in the district? _____

b) came from elsewhere in Scotland? _____

c) came from elsewhere in the UK? _____

d) came from abroad? _____

8. a) Do you take on casual labour at all? YES/NO

If Yes.

b) Thinking again of the low season say **February**, what sort of jobs would you take on casual labour for?

c) How many person hours would you pay for for _____ in Feburary?

d) What was the average hourly/daily rate for _____?

e) Thinking now of the high season, **July** what sort of jobs would you take on casual labour for?

f) How many person hours for _____ in July?

g) Average hourly/daily rate in July?

Description of Casual Work	February No. of person hours	Pay	July No. of person hours	Pay

CHAPTER SEVEN

THE ECONOMIC IMPACT OF VISITOR SPENDING ON MERSEYSIDE

INTRODUCTION

The analysis of the economic impact of visitors is based on measuring each of the stages of impact individually. The first stage of the analysis is to measure the amount and pattern of spending by visitors. The second stage of the analysis is to measure the pattern of trading, and of the workforce, of both the businesses in which visitors spent their money and their local suppliers. The third stage of the analysis is to combine these data to reveal the relative impacts of different types of visitor. The final stage of the analysis is to calculate the total impact of visitor spending by combining the results of the third stage with estimates of visitor numbers.

The previous chapters have documented and examined in detail each of the individual elements above which are involved in measuring the economic benefits derived from visitor spending. This chapter has a broader focus in that it has two objectives. Firstly, to demonstrate and evaluate the combining of these elements within one study (Vaughan, 1986a and 1986b). Secondly, the chapter places the measurement of economic impact within the context of the overall planning needs of a local authority, Merseyside County Council, demonstrating the policy relevant results and the potential guide they can give to policy makers.

THE CONTEXT OF THE STUDY

As witnessed in this thesis, in respect of the commissioning by local and central government agencies of the studies on which the thesis is based, tourism has been increasingly seen as a major means of securing economic development or counter-acting economic decline. In most cases this interest has centred on rural areas and/or areas which are readily identifiable with tourism.

The study on which this chapter is based, however, is for a completely different type of area. It was a study of an area which is, in economic terms, predominantly urban and which is looking for new avenues for its economic future. This study, therefore, was, and still is, unique in that it considered tourism within a major urban area which has been in serious decline for many years. Thus it is in marked contrast to the only other study of a major urban area, Edinburgh, which was also conducted by the author of the thesis.

The impetus to the study of tourism in Merseyside was that Merseyside County Council, following work by Roger Tyms and Partners (1984), concluded that tourism might form a useful element of a strategy for economic regeneration. What was needed was a tourism strategy.

It had not been difficult to demonstrate the need for regeneration. The economy of Merseyside had one of the highest rates of unemployment in the United Kingdom in 1985, 21 per cent, and one of the highest numbers of unemployed, 140,000. Merseyside had lost 88,000 jobs between 1979 and 1984 and had, since the Second World War, experienced the fastest rate of population loss of any British conurbation. Finally, Merseyside was the fifth worst placed of 136 regions in the EEC in terms

of regional problems (Commission of the European Community, 1984).

What was impossible to do with the existing information was to demonstrate the potential of tourism to provide at least a partial solution to the economic, social and physical problems of which the above statistics are both a symptom and a cause. Thus Merseyside County Council commissioned the study of tourism (Vaughan, 1986a) and the complementary "Overview Study" (Vaughan, 1986b), on which this chapter is based, to demonstrate the contribution that tourism currently made, and could make in the future, to the economy. This broad objective for the study was further broken down into two component parts.

The first part was advocacy. Merseyside is not generally recognised as a major tourism area and there was very little reliable information available from which a case could be made to the European Commission for financial assistance for developing tourism. What was needed was information about the importance of tourism at that time to the economy of the area and the potential of the area to increase the contribution of tourism to the economy in the future.

The second part was planning. If there was potential the implications of different policies required assessment. Thus what was needed was information which could be used in the assessment of the economic implications of different policies.

Both of these parts were necessary for Merseyside County Council to present tourism as one means by which the economy of Merseyside could be regenerated. It was hoped to demonstrate through the study that tourism could form one theme within the application of

Integrated Development Operations on Merseyside. Integrated Development Operations are consistent and co-ordinated measures through which the European Commission wishes to increase the impact of EEC financial assistance measures which include specifically the European Regional Development Fund and the European Social Fund.

THE STUDY METHODOLOGY

In the three previous chapters each of the elements of the economic impact of visitor spending have been considered in isolation. Thus there has been individual consideration of visitor spending and of income creation and job generation by different types of business. However, the major concern of studies of the economic impact of visitor spending is to demonstrate the different levels and patterns of impact of visitor spending on incomes and jobs. As a result the visitor spending and business elements of the impact, described in the previous chapters, have to be combined. This is done as shown in the equations below.

A Complete Model of Income Generation

Incorporating tourist expenditure, direct and indirect income generation and the induced income multiplier the full specification for income generation is:

$$G_y = \sum_{j=1}^{J} \sum_{i=1}^{I} N_j Q_j K_{ji} \left[\frac{\sum_{i=1}^{I} \sum_{d=1}^{D} Y_{id} + \sum_{r=1}^{I} \sum_{i=1}^{I} P_{ri} Y_i}{\sum_{i=1}^{I} T_i} \right] \left[\frac{1}{1 - L\left(\sum_{i=1}^{I} X_i Z_i Y_i \right)} \right] \quad (1)$$

where:

G_y = the total local income generation resulting from tourist spending

N_j = the number of days spent in the area by the j^{th} type of tourist

Q_j = the average total expenditure per day by the j^{th} type of tourist

K_{ji} = the proportion of spending by the j^{th} type of tourist accounted for by the i^{th} type of business

Y_{id} = the direct income generated by the i^{th} type of business

P_{ri} = the cost payments for goods and services purchased from the i^{th} type of local business by the r^{th} type of local business

Y_i = the income generation coefficient (direct and indirect) of the i^{th} type of local business

L = the average propensity to consume

X_i = the proportion of local resident spending accounted for by the i^{th} type of business

Z_i = the proportion of local resident spending in the i^{th} type of business which is spent in the local area

T_i = the turnover of the i^{th} type of business

As indicated in Chapter Five, however, one further adjustment is made during the analysis. Retained capital and rent are excluded from the direct and

indirect income which is fed through induced income multiplier, although they are retained as a part of direct and indirect income and of induced income.

A Complete Model of Employment Creation

For employment the full specification for the three stages of impact is given by:

$$G_e = \sum_{j=1}^{J} \sum_{i=1}^{I} N_j Q_j K_{ji} \left[\frac{\sum_{d=1}^{D} \sum_{i=1}^{I} E_{id} + \sum_{r=1}^{I} \sum_{i=1}^{I} P_{ri} E_i}{\sum_{i=1}^{I} T_i} \right] + G_y \left(\sum_{i=1}^{I} X_i \; E_i \right) \qquad (2)$$

where:

G_e = the total employment generated within the area from tourist spending.

E_{id} = the local employment generated directly in the i^{th} type of business.

E_i = the local employment coefficient (direct and indirect of the i^{th} type of business.

and the other terms are as previously defined.

The application of these equations in Merseyside involved using existing information as well as collecting new data. The collection of survey data was constrained by the resources of time and money available and by the context of the study.

The Visitor Survey

As indicated in Chapter Four obtaining information about visitor spending in local areas is generally

accomplished through field surveys. Such field surveys can be undertaken using a cordon survey design, a non-cordon design or a combination of both. In Chapter Four it was indicated that while the cordon survey is preferred for statistical reasons the non-cordon method is often preferred for practical reasons.

In the Merseyside study undertaking a cordon survey was ruled out because of the practical considerations of time: the commissioning date of the study was the 31st July 1985 and the completion date 31st. March 1986.

The main survey period began on August 11th. 1985 and was completed on September 5th. 1985. (A second period was also undertaken, October 6th. to October 26th. but the sample obtained was too small to be of use in the examination of visitor spending and the differences in the locations used ruled out combining the sample with that of the main period).

There was a short questionnaire aimed at establishing the basic market profile of visitors to Merseyside and an extended questionnaire which established in more detail the characteristics of the visitor and the visit. In total the main survey comprised 1,943 short interviews of which 287 were converted into extended interviews with holiday makers staying in Merseyside and 133 into extended interviews with day visitors to Merseyside. (The questionnaires are in the appendix to Chapter Four). The sample was smaller than expected owing to the bad weather in the summer of 1985 making visitors to Merseyside relatively difficult to find and also because the length of the extended questionnaire reduced the time available to sample the people passing the interviewing location.

The Business Survey

The design of the business survey conducted in Merseyside followed that already provided in Chapter Five in respect of South East Dorset. Therefore there is no need to go into detail of why the sampling was done in the way it was.

Following the procedure outlined in Chapter Five and based on a stratified random sample drawn from a range of sources, such as the Yellow Pages, the co-operation of 57 establishments in which visitors spent their money was secured. During the interviews with the direct businesses a further list of main suppliers was drawn up and a further 6 interviews were conducted with suppliers.

A detailed breakdown of the sample obtained is detailed in Table 7.1. Overall the response rate was 55 per cent, excluding 6 cases in which the business had not been in existence for a long enough period to supply the information, 13 businesses from which it proved impossible to obtain an answer on whether they would co-operate and 5 cultural facilities/organisations for which data was obtained from another source (the Policy Studies Institute who were conducting a complementary study of the arts on Merseyside).

The questionnaire adopted, which is reproduced in the appendix to this chapter, was basically the same as that used in South East Dorset. In respect of measuring economic impact it was concerned with four aspects of the business: the workforce, the turnover, the purchasing of goods and services and the income generated.

TABLE 7.1: Details of Business Survey*.

Type of Business	Complete Interview	Partial Interview	Refused	No Answer	Total Approached
Hotel/ Guest House	20	0	12	2	34
Private House (B&B)	11	0	2	0	13
Rented Accommo-dation	4	0	6	1	11
Other Accommo-dation	2	0	2	1	5
Restaurant/ Pub	10	1	5	2	18
Shop	10	2	17	4	33
Suppliers	6	0	5	3	14
Total	63	3	49	13	128+

* Excludes economic and workforce data for 5 cultural facilities/organisations which were supplied by Policy Studies Institute.

\+ A further 6 were approached but were ineligible for the interview.

The data obtained from the businesses were adjusted in three ways. Firstly deductions for national insurance contributions and income and corporation tax were calculated as described in Chapter Five. Secondly, the financial data were standardised, using the General Index of Retail Prices, to August 1985 values. Finally the subset of hotel businesses was weighted, on the basis of size, using data supplied by Merseyside County Council.

The Family Expenditure Survey

The analysis of economic impact includes an estimate of the induced impact of income earned. The business survey provided the estimate of how much local income was created for a given amount of turnover. The Family Expenditure Survey was used to divide this disposable income between saving and spending and between the different types of purchases made by residents of Merseyside. Table 29, the regional analysis of spending in the North West in the two year period 1982-83 was used (Department of the Employment, 1984).

THE RATE AND PATTERN OF VISITOR SPENDING

The first element in any study of the economic impact of visitor spending on incomes and jobs is the measurement of visitor spending. Of concern is measurement of the rate at which spending occurs, the pattern of spending and the total amount spent. The main emphasis of the analysis, however, is on identifying whether there are any differences between visitors in these respects which can form an input into policy making.

As might be expected, given the discussion and the examples given in Chapter Four, visitors to Merseyside differed in their spending characteristics. They differed in their rate of spending and in the way in which they divided their spending between different businesses. These differences were related to certain key characteristics of the visitors of which one, accommodation used, has formed the basis for the sub-division of visitors in the analysis contained in this chapter.

The Rate of Visitor Spending Per 24 Hours

The rate at which visitors spend their money can be measured in three ways: the amount spent per group visit, the amount spent per person visit and the amount spent per person per 24 hours. As shown in Table 7.2 visitors to Merseyside differed in their rate of spending. The values given in the table have been rounded to the nearest 5p.

However, while the rate can be measured in different ways, for planning purposes the amount spent per person per 24 hours is the most useful as it removes the ambiguities caused by length of stay and the number of persons in the group. In addition, the economic implications and the physical implications (people in the area at one time) of visitors can be measured against the same base. Table 7.3, therefore, presents details about visitor spending based on analysis of spending per 24 hours, the implications of which for policy are presented later.

The Pattern of Visitor Spending

The amount visitors spend is not the only consideration for policy makers. They need, firstly, to have

TABLE 7.2: The Rate of Spending by Visitors to Merseyside.

Type of Visitor by Accommodation Used	Amount Spent*		
	Per Group Visit	Per Person Visit	Per 24 Hours
	£	£	£
Hotel and Guest House	160.10	78.10	25.90
Rented Self Catering	460.65	141.00	17.80
Friends and Relations	198.95	94.80	13.30
Caravan/Campsite	180.40	48.60	9.90
Holiday Camp	453.90	124.90	19.50
Youth Hostel	40.40	25.40	9.25
Hall of Residence	201.20	48.90	12.20
Day Visitor	18.10	6.90	6.90

* To nearest 5p.

information which provides guidance on what causes the differences between visitors in the amount they spend, and secondly, to be able to demonstrate that the benefits arising from the tourist industry are not restricted to the accommodation sector and those other parts of the economy which are commonly associated with tourism. This can be done in two ways as witnessed in the next two paragraphs. The first way is to simply detail the pattern of visitor spending. The second way is through consideration of the 'multiplier' effects on incomes and jobs. Measurement of these multiplier effects (direct, indirect and induced) requires information about the distribution of visitor spending because, as detailed in Chapter Five and Chapter Six, different businesses have different ratios of turnover to local purchasing of goods and services, local income and local jobs.

The most commonly used basis for policy formulation is the accommodation used by visitors and, in fact, accommodation used has proved to be one of the major determinants of visitor spending. The influence of the accommodation used on the overall spending of visitors can be observed by examining Tables 7.2 and 7.3. Firstly, those who were accommodated spent more per 24 hours than those on a day visit. Secondly, the cost of accommodation accounted for a large part of the difference between the levels of spending by each of the visitor types.

However, the accommodation sector was not necessarily the major recipient of visitor spending. The spending of visitors was spread widely through the service sector of the business community. The proportion of spending devoted to accommodation (excluding those staying with friends and relatives) varied between 13 per cent, for those staying on caravan and campsites,

TABLE 7.3: The Pattern of Spending by Visitors to Merseyside.

Type of Visitor by Accommodation Used	Category of Spending					
	Accommodation	Pubs and Restaurants	Shops	Leisure	Other	Total
	Proportion of 24 hour spending (%)					
Hotel and Guest House	56	3	31	7	3	100
Rented Self Catering	47	8	34	8	3	100
Friends and Relations	0	17	44	5	34	100
Caravan and Campsite	13	3	70	9	5	100
Holiday Camp	63	3	20	5	9	100
Youth Hostel	44	32	23	0	1	100
Hall of Residence	35	0	49	15	1	100
Day Visitor	0	27	38	10	25	100

and 63 per cent, for those staying in a holiday camp.

The Implications of Differences in Spending for Policy Formulation

The spending figures presented in Tables 7.2 and 7.3 have implications for the level of impact of visitors on the Merseyside economy. The impact will vary in relation to the type of business in which the visitor spends money and in the amount spent. Thus, for example, hotel-based visitors spent most per day and day visitors least. On average Merseyside needs to attract approximately 3.75 day visitors for each one hotel visitor day to introduce the same level of spending in the local community.

THE CHARACTERISTICS OF TOURIST-RELATED BUSINESSES

Tourist spending is important because it contributes to the viability of businesses. However, consideration of tourist spending alone does not provide a complete picture of how visitors affected the economy of Merseyside. The impact on the Merseyside economy is also influenced by the different economic and workforce structures of the businesses in which visitors spend their money. The different types of business convert their turnover into purchases from local businesses, income for local residents and employment for local residents at different rates and, for income and employment, with different end results.

Purchasing from Local Suppliers

Businesses do not exist in isolation but make purchases of goods and services from other businesses. If these

other businesses are also located in Merseyside then the spending of visitors will generate activity in other sectors of the economy which may, in turn, generate still more purchases. Table 7.4 provides statistics on the rate of purchasing, within Merseyside, of some selected business types. The values in the table have been rounded to the nearest £1.

The Payment of Income to Local Residents

Businesses pay out income to employees for their labour and to owners both for their labour, if supplied, and for investment of capital. Thus income accrues to different people and may be paid out in the form of wages, salaries, profit and rent. Wages, and salaries, after allowance for income tax and national insurance contributions, form the disposable income of employees most of which will be used for consumption purposes. Profit can be paid out as "drawings" or retained within the business as an addition to capital. If it is paid out as "drawings" then it forms part, or all, of the disposable income of the owner(s) and will be used for consumption. If it is treated as an addition to capital then it can be used for investment or other purposes at a later date.

As shown in Table 7.4 there are differences between businesses in the rate at which they pay out "local" income and in the form that income takes. The values in the table have been rounded to the nearest £1. However, it should be noted that the income is net of tax and national insurance and is confined to the income paid locally. This income, therefore, is less than that actually earned in, and by, businesses located in Merseyside. Firstly, some businesses are not local but have head offices located outside Merseyside. In these cases the profit/rent element is

remitted out of Merseyside and therefore does not comprise part of "local" income. Secondly, the Government "taxes" earnings through National Insurance Contributions, Income Tax and Corporation Tax.

The Local Workforce

Finally, businesses differ in the workforce they "employ". Thus there are differences between businesses in respect of working proprietor involvement, all year employment, seasonal employment, full-time and part-time employment and the division of the workforce between males and females. Table 7.4 provides some illustrations of these differences. The values given are rounded to the nearest 0.1 jobs.

THE COMBINATION OF VISITOR SPENDING WITH THE ANALYSIS OF BUSINESSES IN RESPECT OF INCOME

The previous two sections have looked at visitor spending and the use of their turnover by businesses separately. Thus they have covered, in the context of one study, the analysis of the basic components of impact as previously covered in Chapters Four, Five and Six. This section of the chapter combines the results to show the impacts of different types of visitor on the incomes of residents of Merseyside. The differences in the rate of impact and in the composition of the impact form the basis of policy making using data derived from economic impact studies.

Tourist-related income is the money earned by local residents and businesses (net of tax and national insurance contributions) as a result of visitors spending money. This income is created in stages

TABLE 7.4: Some Measures of the Linkage of Selected Businesses to the Economy of Merseyside.

Type of Business/ Characteristic	Linkages to the Economy of Merseyside
Purchasing from Local Businesses:	Per £100 of Turnover
Hotel	24
Rented Accommodation	12
Restaurant/Pub	16
Shop	3

Local Income Creation:	Wages & Salaries	Drawings	Retained Capital	Rent	Total
	Per £100 of Turnover				
Hotel	16	3	4	0	23
Rented Accommodation	1	10	18	0	29
Restaurant/Pub	14	1	1	1	16
Shop	7	*	*	1	8

Local Workforce:	Working Proprietor	All-Year Employee	Seasonal Employee	Total
	Jobs per £100,000 of Turnover			
Hotel	0.7	7.3	0.2	8.3
Rented Accommodation	8.9	4.4	5.9	19.2
Restaurant/Pub	0.5	6.1	0.1	6.7
Shop	0.1	3.4	@	3.6

* Less than 0.5.

@ Less than 0.05 jobs

(direct, indirect and induced) as described earlier in this thesis.

Policy makers are concerned with two aspects of income creation as a result of visitor spending. The first of these aspects is the different rates at which income is created by different types of visitor which is considered immediately below. The second, which is considered later in this chapter (the total economic impact of visitor spending) is the distribution of that income within the community.

The Income Creation Per £100 Spent

The rate at which income is created can be measured in two ways, each of which gives policy makers a different focus on the process of impact. The first is to measure the rate of impact for a given amount of visitor spending. The second is to measure the rate of impact in respect of the actual amounts spent by visitors.

Table 7.5 presents an analysis of the rate at which different types of visitor have an impact on local incomes. The base of the analysis is a fixed amount of spending by each type of visitor, £100. Visitors are classified by the accommodation they used and the values are net of taxation and national insurance contributions. The results are based on the spending of visitors over all the different types of business in which they spend money: their accommodation, shops, pubs, restaurants and so on. The values have been rounded to the nearest £1.

The rate of income creation resulting from visitor spending differed between the types of tourist as shown in Table 7.5. For each £100 spent by visitors accommodated in a hotel £20 of local income (net of tax

TABLE 7.5: The Income Created, Net of Tax and National Insurance, by Visitor Spending in Merseyside.

Type of Visitor by Accommo-Used	Type of Income			Source of Income	
	Direct	Secondary	Total	Accomm-odation	Non-Accomm-odation
	Income per £100 spent@			Proportion of Income (%)	
Hotel	18	2	20	72	28
Rented	20	2	21	67	33
Friends and Relations	11	1	12	0	100
Caravan/ Campsite	15	1	16	37	63
Holiday Camp	10	1	11	59	41
Youth Hostel*	11	1	13	37	63
Hall of Residence*	12	1	13	29	71
Day Visitor	12	1	14	0	100

@ To nearest £1.

* Accommodation element estimated.

and national insurance contributions) resulted. In comparison for each £100 spent by those on a day visit £14 of local income resulted. Thus policies might be developed which mean that more resources are devoted to developing, managing and promoting hotel-based visitors as these may give a greater return in that their pattern of spending results in a higher level of impact on local resident incomes.

As well as the simple relative amounts of income created the stages and types of business through which the income is created can also give a guide to policy. This guide can take the form of information about the stage at which impact occurs or the sector through which it occurs.

In the table direct income is the wages, salaries, profit and rent earned in, and by, the businesses in which visitors spend their money. The visitor spending, however, also has a wider impact because of the purchasing of goods and services, by the businesses in which visitors spend their money, from other local businesses such as wholesalers. In addition the income earned, either in the businesses directly serving visitors or indirectly in their suppliers, may be respent creating further income. In Table 7.5 the indirect and induced impacts on income are combined to form the secondary effect.

From Table 7.5 it can be concluded that the direct impact on incomes was substantially greater than the secondary impact via the indirect and induced effects. In all cases the direct effect accounted for in excess of 90 per cent of the impact on local incomes. This suggests that policies aimed at the components of the direct impact are potentially more cost-effective than those aimed at the secondary effects.

Also in Table 7.5 it can be seen that the contribution of the spending in the accommodation and non-accommodation sectors differed between the types of visitor. For hotel-based visitors, for example, their spending in their accommodation accounted for 72 per cent of the income they created whereas for visitors staying in a holiday camp the proportion was 59 per cent. Thus the pattern of visitor spending is important in determining the rate of the impact as witnessed by a comparison of the proportion of spending on accommodation (56 per cent for hotel-based visitors and 63 per cent for holiday camp visitors) with the percentages above.

The Income Per Visitor Day/Night

The impact of tourists, however, is dependent on both the pattern of spending and on the amount spent. The results presented in Table 7.5 depended solely on the way in which the pattern of spending combined the different types of business together. Table 7.6 illustrates the effect of the different amounts spent by visitors in combination with the distribution of that spending between different types of business. The values in the table have been rounded to the nearest 5p.

For hotel-based visitors, for example, the £25.90 they spent per 24 hours is combined with the information that their spending created £20 of income for every £100 spent. This reveals that, per 24 hours, the spending of hotel-based visitors created £5.30 of income for residents of Merseyside. In comparison the £6.90 spent by day visitors resulted in £0.95 of local income. Thus, per 24 hours, the spending of hotel-based visitors created approximately five and a half times more income than spending by day visitors.

TABLE 7.6: The Income Created per Day, Net of Tax and National Insurance, by Visitor Spending in Merseyside.

Type of Visitor by Accommodation Used	Income per Visitor Day	
	Amount@	Index (base 100)
	£	No:
Hotel	5.30	558
Rented	3.90	411
Friends and Relatives	1.55	163
Caravan/Campsite	1.60	168
Holiday Camp	2.20	232
Youth Hostel*	3.30	347
Hall of Residence*	2.30	242
Day Visitor	0.95	100

@ To nearest 5p.

* Accommodation element estimated.

The Structure of the Income Created

As the impact is occurring in different types of business there is also likely to be a difference in the 'quality' or type of impact as witnessed in the section on the characteristics of different business types. Thus consideration in policy making needs to be given not only to the amount visitors spend but also to the pattern of that spending as this will influence the 'quality' of the impact.

Table 7.7 provides details of the composition of the direct income resulting from the spending of different types of visitor classified by the accommodation they used. As can be seen different proportions of income are paid out as wages, profit and rent as a result.

In broad terms such results could be the basis of policies developed to give the best qualitative result. Quality, of course, is subjective in this context and may represent a judgement that, for example, it is better to create income through wages than through retained profits.

THE COMBINATION OF VISITOR SPENDING WITH THE ANALYSIS OF BUSINESSES IN RESPECT OF JOBS

The previous section has looked at the policy relevant information derived from combining data on visitor spending with data on income paid out by businesses. This section combines the information on visitor spending with data on the workforce of businesses. The basic components of the data collection on the workforce of businesses was covered in Chapter Six. This section of the chapter shows the impacts of

TABLE 7.7: The Type of Income Created by the Spending of Visitors.

Type of Visitor by Accommodation Used	Type of Income				
	Wages & Salaries	Drawings	Retained Capital	Rent	Total
	Proportion of Income (%)				
Hotel	77	10	11	2	100
Rented	32	24	42	2	100
Friends and Relations	87	4	1	7	100
Caravan/Campsite	92	2	*	6	100
Holiday Camp	96	1	*	2	100
Day Trip	89	5	2	5	100

* Less than 0.5.

different types of visitor on the jobs for residents of Merseyside. As with income, the differences in the rate of impact and in the composition of the impact form the basis of policy making using data derived from economic impact studies.

The tourist-related workforce in Merseyside is comprised of working proprietors, all-year employees and seasonal employees; each of whom may work full-time or part-time. These different types of worker make it far more difficult to measure the jobs per turnover relationship than was the case for the income per turnover relationship. This is particularly the case because several jobs may be undertaken by the same person and, in addition, each job may have different amounts of time allocated to it during different times of the year.

Policy makers are concerned with two aspects of this job creation as a result of visitor spending. The first of these aspects is the different rates at which jobs are created/supported by different types of visitor which is considered immediately below. The second, which is considered later in this chapter (the total economic impact of visitor spending) is the type of job created/supported within the community.

The rate of employment creation can be measured in two ways: jobs resulting from a fixed amount of spending (£100,000) and jobs resulting from a given number (10,000) of visitor days/nights. Again the analysis is based on the spending of visitors over all types of business and includes the three stages of impact: direct, indirect and induced: as described earlier. The results have been rounded to the nearest 0.1 jobs.

The Impact Per £100,000 Spent

The direct workforce is comprised of those people who work in the businesses in which tourists spend their money. As shown in Table 7.8 the numbers per £100,000 of spending by visitors vary according to the type of visitor. The differences in Table 7.8 are the result of the different patterns of spending by different types of visitor.

The direct effect on jobs is not the only effect. Again there are the "ripple" effects of indirect and induced employment. As a result of these additional effects, shown in Table 7.8 as the secondary effects, the number of jobs supported by visitor spending is greater than those found in the businesses in which visitors spend their money.

Three conclusions can be drawn by policy makers from Table 7.8. Firstly, the rate of job creation as a result of visitor spending varies. Secondly, the direct effect is substantially greater than the combined indirect and induced effects. Thirdly, the proportion of jobs accounted for by spending in the accommodation varies a great deal between the different visitor types. These conclusions have the same implications for tourism policy as was the case for income.

The Impact Per 10,000 Visitor Days/Nights

As with income, the rate of employment creation measured against a fixed amount of visitor spending does not provide a complete picture of the relative impact of different types of visitor. The size of the workforce is dependent on both the pattern of visitor spending and the amount of visitor spending.

TABLE 7.8: The Jobs Created per £100,000 Spent by Visitors to Merseyside.

Type of Visitor by Accommo-Used	Type of Income			Source of Income	
	Direct	Secondary	Total	Accomm-odation	Non-Accomm-odation
	Jobs per £100,000 Spent			Proportion of Jobs (%)	
Hotel	6.7	1.2	8.0	71	29
Rented	11.6	0.8	12.4	76	24
Friends and Relations	4.3	0.6	5.0	0	100
Caravan/ Campsite	6.2	0.8	5.9	40	60
Holiday Camp	9.8	0.6	10.4	82	18
Youth Hostel*	8.7	0. 7	9.4	63	37
Hall of Residence*	7.6	0.6	8.2	57	43
Day Visitor	4.9	0.7	5.7	0	100

@ To nearest 0.1 job.

* Accommodation element estimated.

Table 7.9 demonstrates the influence of the amount spent by presenting the statistics on jobs in terms of 10,000 visitor days/nights (24 hour periods). Thus, for example, while in terms of a fixed amount of spending (Table 7.8) hotel-visitor spending created 1.4 jobs for every 1 job created by spending by a day visitor when the actual amount spent in a given time is also considered (Table 7.9) spending by hotel-based visitors created 5.3 jobs for every 1 job created by day visitor spending.

The Structure of the Workforce

Finally, it is also important to consider the type of workforce involved. The structure indicates the likely input made by tourism into the local economy. However, conclusions on the relative value of the contribution of tourism to the economy, based solely on the results presented, should be drawn with care if over-simplification resulting from a lack of a base for comparison is not to mislead. A high level of female and or part-time employment may not necessarily be a bad thing. There are, however, three aspects of the tourist-related workforce on Merseyside that are important when considering the future development of tourism in Merseyside.

Firstly, as shown in Table 7.10 the spending of most types of visitor created mainly all-year employment in the businesses in which they spent their money (in excess of 75 per cent). However, for holiday camp visitors a large part of the workforce their spending created was seasonal (77 per cent).

Secondly, as also shown in Table 7.10, while the spending of most types of visitor created jobs mainly for employees (in excess of 90 per cent) the spending

TABLE 7.9: The Jobs Created per 10,000 Visitor Days/Nights in Merseyside.

Type of Visitor by Accommodation Used	Jobs per Visitor Day	
	Amount@	Index (base 100)
	No.	No.
Hotel	20.7	531
Rented	22.1	567
Friends and Relations	6.6	169
Caravan/Campsite	6.9	177
Holiday Camp	20.2	518
Youth Hostel*	8.7	223
Hall of Residence*	10.0	256
Day Visitor	3.9	100

@ To nearest 0.1 job.

* Accommodation component estimated.

TABLE 7.10: The Status of the Worker Supported by the Spending of Visitors.

Type of Visitor by Accommodation Used	Status of Worker			
	Owner	All-Year Employee	Seasonal Employee	Total
	Proportion of workforce (%)			
Hotel	7	90	3	100
Rented	37	39	24	100
Friends and Relations	4	96	1	100
Caravan/Campsite	1	78	21	100
Holiday Camp	*	23	77	100
Day Visitor	4	95	1	100

* Less than 0.5 per cent.

of visitors staying in rented self catering accommodation resulted in a high proportion of working proprietors in the workforce (37 per cent).

Thirdly, Table 7.11 divides the workforce in terms of males and females and whether they are in full or part-time employment. While the workforce of Merseyside supported by tourist spending has apparently high levels of female and part-time employment it is as well to remember that a large part of the workforce has the opposite characteristics.

Both Tables 7.10 and 7.11 are restricted to those visitor types where the accommodation component was based on interviews rather than estimated.

THE TOTAL ECONOMIC IMPACT OF VISITORS TO MERSEYSIDE

So far this chapter has examined the rates at which visitors have an economic impact on Merseyside through their spending. This section takes the examination further by combining broad estimates of the number of visitor days/nights (the way in which the estimates were made was described in Chapter Four) with the results detailed in the preceding sections.

In this section the results on visitor numbers have been rounded to the nearest 100,000, the results on spending to the nearest £100,000, the results on income to the nearest £100,000 and the results on jobs to the nearest 5 jobs. The level of rounding adopted for does not imply a level of 'accuracy' but allows for the components to add to the total.

TABLE 7.11: The Type of Worker Supported by the Spending of Visitors.

Type of Visitor by Accommodation Used	Type of Worker				
	Male		Female		Total
	Full-time	Part-time	Full-time	Part-time	
	Proportion of the Workforce (%)				
Hotel	20	12	24	43	100
Rented	9	9	28	53	100
Friends and Relations	13	12	21	54	100
Caravan/Campsite	28	7	34	31	100
Holiday Camp	15	10	21	54	100
Day Visitor	17	14	19	50	100

The Number of Pleasure Visitors

For the calendar year 1985 it was estimated that 0.6 million visitors were accommodated in Merseyside and that they stayed for 2.3 million nights. In addition there were 7.7 million day visits to Merseyside.

Spending by Pleasure Visitors

During 1985 visitors staying overnight in the area spent an estimated £42 million and day visitors an estimated £53.1 million giving a total of £95.1 million.

Within the accommodation total hotel-based visitors accounted for 47 per cent of spending, people staying with friends and relations 25 per cent and people in rented self catering accommodation 8 per cent. The remaining 20 per cent was accounted for by those staying in a holiday camp, on caravan and campsites, in youth hostels, in Halls of Residence and in a range of other types of accommodation.

The Effect on Incomes of Pleasure Visitor Spending

Of the estimated £95.1 million pounds spent by visitors to the area approximately £12.8 million would have been paid out as income, net of tax and national insurance contributions, to the local owners and employees of the businesses in which visitors spent their money: the direct effect.

These total figures for direct income conceal the four different types of income earned by local residents and businesses. The differences between these types of income will determine the impact on the economy, with wages, salaries and "drawings" being the basis of

consumer spending and retained capital and rent the basis for future investment. Approximately 90 per cent of the income took the form of wages, salaries and drawings.

The impact of visitor spending on the incomes of Merseyside residents, however, was not confined to the direct effect. The businesses in which visitors spend their money do not exist in isolation but make purchases of goods and services from other businesses. In addition people do not save all the money they earn. In fact they tend to spend the majority of it locally. These two factors, earlier described as the secondary effects, result in visitor spending having a wider effect on incomes.

It is estimated that the indirect and induced effects resulted in a further £1.5 million of income to residents of Merseyside. Thus in total pleasure visitor spending increased the income of Merseyside residents by £14.3 million.

The Effect on Jobs of Pleasure Visitor Spending

The tourism industry is a major part of the Merseyside economy. For 1985 it is estimated that pleasure visitor spending wholly, or partly, supported 5,545 jobs in the businesses in which visitors spent their money such as hotels, restaurants and shops.

These jobs, however, were not all the same in respect of their status or the type of person involved. Overall 6 per cent were taken by working proprietors, 82 per cent by all-year employees and 12 per cent by seasonal employees. In addition 17 per cent were male full-time jobs, 22 per cent female full-time jobs, 13 per cent male part-time jobs and 49 per cent female

part-time jobs.

Again the effect of visitor spending did not confine itself to jobs in the businesses in which visitors spent their money. There were further secondary effects. In total these amounted to a further 785 jobs.

Combining the direct jobs with the indirect jobs gives a total of 6,330 jobs supported wholly, or partly, by the spending of pleasure visitors.

The Implications of Different Visitor Types

Throughout this chapter attention has been drawn to the differences between visitors in their likely impact on the environment (through their numbers) and the economy (through spending, income and employment) of Merseyside. Table 7.12 illustrates the implications of these differences.

Hotel-based visitors accounted for 8 per cent of visitor days/nights, 21 per cent of visitor spending, 28 per cent of local income and 25 per cent of jobs for residents of Merseyside. In comparison day visitors accounted for 77 per cent of visitor days/nights, 56 per cent of spending, 51 per cent of income and 48 per cent of jobs.

THE CONTRIBUTION OF ECONOMIC IMPACT ASSESSMENT IN THE PREPARATION OF THE TOURISM STRATEGY

In 1977 a schema for deriving tourism and recreational strategies was developed for the study of "Tourism and Recreation in the Chichester Area: A Basis for

TABLE 7.12: A Comparison of the Impact of Visitors to Merseyside.

Type of Visitor by Accommodation Used	Type of Impact on Merseyside			
	Visitor Days/ Nights	Visitor Spending	Income to Residents	Jobs for Residents
	Proportion of Impact (%)			
Hotel	8	21	28	25
Friends and Relations	8	11	9	8
Rented	2	4	5	7
Other Accommodation	5	9	7	13
All Staying Visitors	23	44	49	52
Day Visitor	77	56	51	48
Total	100	100	100	100

Planning" (Blackie et al, 1977). This schema is presented in figure 7.1.

The schema illustrates the range of information relevant to the preparation of a strategy. The schema contains four areas of investigation: current demand, future demand, supply and impact. Within each of these there are different information requirements.

What is important about the schema in this context, however, is that it demonstrates that consideration of the current and potential economic impact of visitor spending is only one element, albeit a major element, of the information database required for planning purposes. This was true of the Merseyside study, and the subsequent policy recommendations.

The study of Merseyside had to do a range of things, each of which are considered below, in developing and presenting a case for an integrated strategy for tourism. It had to:

a) make the case for tourism, the advocacy objective,

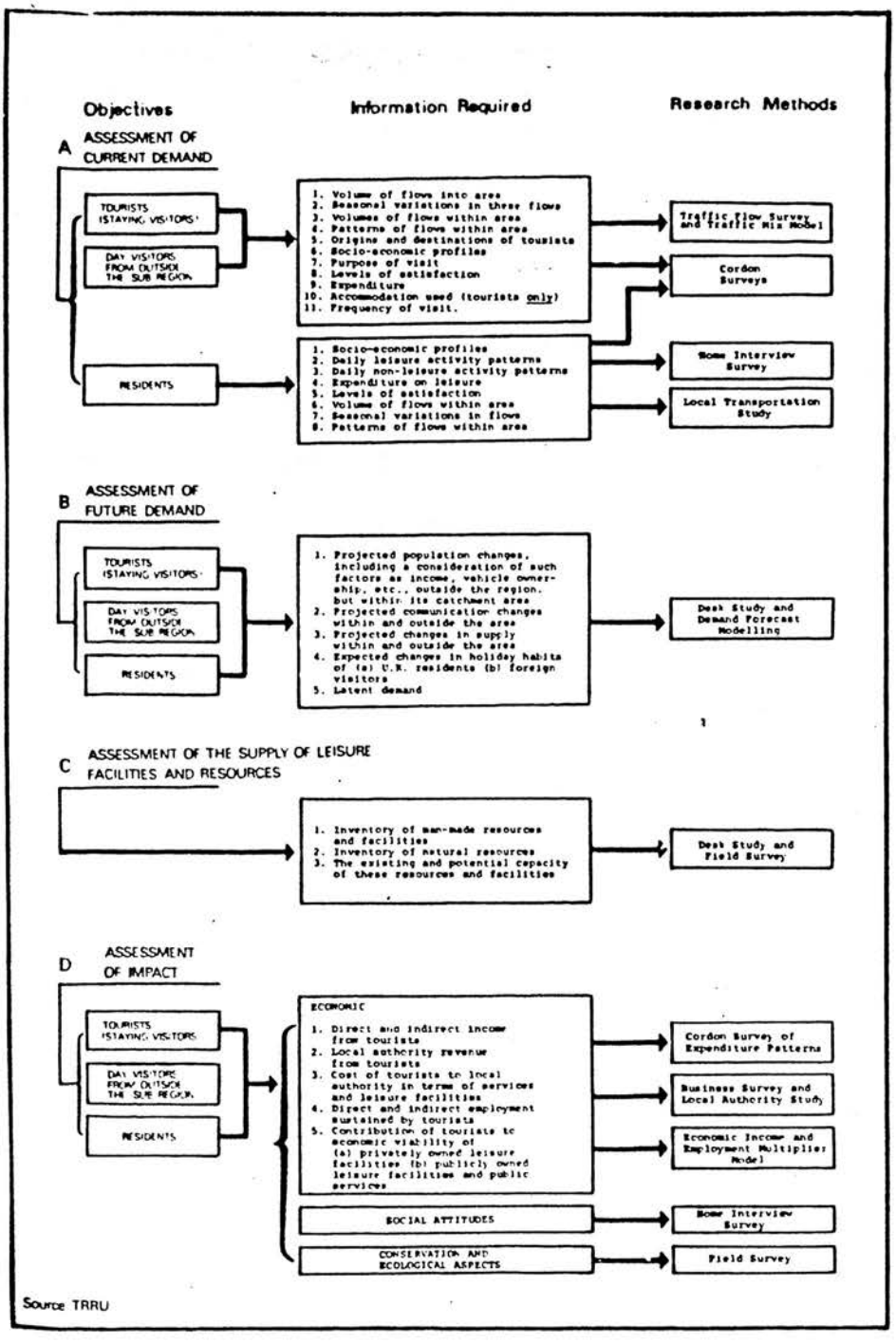
b) identify the level and nature of current demand and assess whether the needs and motivations of visitors could be used as the basis for developing a strategy, and

c) provide data which could be used to assess the effects of different policies, the planning objective.

The Advocacy Objective

The study was aimed at securing European Commission

FIGURE 7.1: SCHEMA FOR DERIVING TOURISM AND RECREATIONAL STRATEGIES



funding of tourist developments in Merseyside through the designation of tourism as one theme in an Integrated Development Operations approach to the regeneration of the Merseyside economy. However, in the past, the European Commission has been thought to treat with scepticism the aspirations of the older urban and industrial areas in the United Kingdom for tourism development. While there are signs of a more positive attitude towards the potential of tourism, for example ERDF project finance for the Greater Manchester Air and Space Museum, the case still had to be made that tourism was, and could be even more, significant in Merseyside.

Much of the advocacy material produced has already been given in the preceding discussion on visitor spending and the resulting impact on incomes and jobs. For 1985 the size of the Merseyside tourism industry, defined in terms of pleasure visitors, was illustrated in terms of:

a) 600,000 holiday visitors, who stayed for a total of 2.3 million nights, plus 7.7 million day visits,

b) a total amount spent by pleasure visitors to Merseyside of £95.1 million,

c) income resulting from visitor spending totalling £14.3 million, and

d) jobs resulting from visitor spending totalling 6,330.

As stated in Chapter Two advocacy arguments in favour of tourism simply require to illustrate that tourism is worthwhile. There is no need to define the term

worthwhile or to make comparisons. Thus it would have been possible simply to present the advocacy case in respect of the statistics above. However, the case was extended using the information presented earlier in this chapter in respect of the type of income created and the type of job created to illustrate that the benefits of tourism were not confined to any one sector of the economy or to any particular type of economic activity but were spread throughout the community. In addition, a comparison was made with the contribution of other economic activities to jobs on Merseyside. In this comparison with other sectors the secondary effects of tourism were excluded as the statistics for the other activities did not include such effects. Overall the comparison showed that tourism was, in 1985, of a similar size to the shipbuilding industry.

The Assessment of Current Demand and Potential Opportunities

As well as the advocacy objective the study was aimed at providing insights into the nature of the current tourism demand on Merseyside and the opportunities that might reveal for the future. As a result the Merseyside study was based on, a hypothesis that tourism was not a single activity but was a combination of contrasting activities and markets. Two aspects of these differences were examined in detail: the difference in needs and motivations of different types of visitor and the different economic impacts of different types of visitor.

The assessment of the different economic impacts has already been detailed earlier in this chapter and will be returned to late in the context of the planning objective. This section briefly reviews the former element: the differences in needs and motivations and

their implications for a strategy.

Broadly speaking Merseyside tourism was found to consist of two products (the experiences visitors are seeking) and related visitor types (the cultural visitor and the traditional visitor). In general these conformed to visitors to Liverpool (cultural) and to Southport and the Wirral (traditional seaside) It was found that cultural visitors, those in Liverpool, were more likely to be drawn from the ABC1 social classes. In addition, and not surprisingly it was found that Merseyside had an image problem. However, what was evident about this image problem was that it was more likely to exist before a visit than after a visit had taken place.

On the basis of the study findings a strategy was put forward which had the overall objectives of:

a) to maintain and improve the economic and social benefits derived from tourism, and

b) to provide the correct context for continued and new investment and other activities in connection with tourism.

Within the strategy 3 programmes were recommended. The three programmes were:

a) to protect the position of the traditional areas of the Wirral and Southport,

b) to secure the benefits of integrated cultural and tourism development, management and promotional activities, and

c) to improve the image of Merseyside.

Within the context of this thesis there is no need to go further into these programmes, although it is important to note that they have been broadly picked up by the new Merseyside Tourism Board (established in 1986 to fill the gap left by the abolition of Merseyside County Council). The need for such a Tourist Board and for a strategy was in part a result of the advocacy arguments presented earlier and the recognition that tourism policy is about what might be lost as well as what might be gained.

The Planning Objectives

Most of this chapter has examined the economic impact of visitors to Merseyside. It has demonstrated that visitors should not be viewed as a single group but that different types of visitor have different levels of economic impact both in their rate of impact and in their contribution to the total impact. The relevance of these differences can be further illustrated by looking how in simple terms (the limitations are discussed in Chapter Nine) such information can be used in the development of policy.

In 1985 the division of overnight summer visitors between the various types of accommodation (measured in terms of visitor nights) was as shown in Table 7.13. What it might be wished to assess is which of these types of visitor would be the most 'profitable' to develop, within the strategies outlined above. In addition, the policy makers may wish to assess the possible differences of pursuing different policy objectives within these programmes. The first objective may be to maximise local income from a fixed amount of financial assistance. The second objective may be to maximise income from a minimum number of visitors.

TABLE 7.13: Person Nights in Accommodation in Merseyside in the Summer.

Type of Accommodation	Type of Visitor		
	United Kingdom	Overseas	Total
	%	%	%
Hotel	29	42	32
Friends and Relatives	30	44	33
Rented House/Flat	10	2	8
Caravan/Campsite	11	0	8
Other	21	11	19
Total	100	100	100

Table 7.14 shows that these two objectives would require different types of tourist to be selected. For objective one those staying in rented self catering accommodation would best meet the policy requirements. For objective two those staying in hotels would best meet the policy objective.

A similar approach can be used to assess the merits of developing different types of tourism attraction. Such an approach would assess the primary benefits arising from the attractions themselves (income and employment created within the attraction) plus the secondary benefits (income and employment) arising from the spending of additional visitors attracted into the area on their accommodation and so on.

Both uses of the data have limitations as will be returned to in Chapter Nine. However, such information is extremely useful as it provides guidelines on what might be, although there are still the problems of what can be which is where much of the early simplistic use of multiplier studies in policy formulation went astray in terms of simple 'best type' selection.

CONCLUSION

This chapter completes the examination of the components of an economic impact study of visitor spending. The technique was developed in the United Kingdom to analyse the impact of tourism specifically. It is a disaggregate approach which makes it markedly different to the impact analysis undertaken in North America, with the exception of the work by Liu and Var (1982). The technique was developed to combine the advantages of input-output analysis with cost effective

TABLE 7.14: The Impact of Hypothetical Policy Options on Local Incomes in Merseyside.

Objective I: To maximise local income from a fixed amount of financial Grant Aid.

Type of Development Grant-aided	Capacity per night of Development	Average 24 hour expenditure per Visitor	Local Income Multiplier Coefficient	Daily Impact at 100% occupancy
		£	Per £	£
Hotel	100	25.90	0.20	518
Caravan Site	400	9.90	0.16	634
Self-Catering Units	250	17.80	0.21	934

Objective II: To maximise income from a minimum number of visitors.

Type of Development	Capacity per night of Development	Average 24 hour expenditure per Visitor	Local Income Multiplier Coefficient	Daily Impact at 100% occupancy
		£	Per £	£
Hotel	500	25.90	0.20	2590
Caravan Site	500	9.90	0.16	792
Self-Catering Units	500	17.80	0.21	1869

data collection in order to analyse the impact of one sector, tourism, rather than the impact of all sectors of the economy.

This chapter has demonstrated that the method satisfied the needs of policy makers both in terms of providing information which could be used in an advocacy context and in a planning context. It was able to do this because it is a market conscious analysis based on establishing distinctive types of visitor and analysing their impacts separately. Thus as well as providing information about the present it has also provided information which can be used to assess the implications of changes in the future.

However, the method does not provide a panacea for policy makers when considering future policies. It is only one of many inputs into the decision making process. Impact analysis can provide guidance on the implications of different options but it cannot give guidance on whether they are the correct options. Nevertheless it can provide the answers to some extremely important questions in a way that is cost effective because the method has great flexibility and can provide both descriptive and interpretive statistics.

The next part of this thesis assesses the assesses the contribution of the studies on which this thesis is based to the methodology (Chapter Eight) and to the understanding of tourism in Great Britain (Chapter Nine).

APPENDIX

MERSEYSIDE ECONOMIC IMPACT STUDY QUESTIONNAIRES

DRV Research

MERSEYSIDE
ECONOMIC IMPACT
STUDY.

Confidential

(1) Code (2) Date (3) Type (4) Number (5) Year

(6) All Year Jobs (7) Seasonal Jobs (8) Casual

	Tot	MPT	MFT	FPT	FFT	Tot	MPT	MFT	FPT	FFT	Winter	Summer
(a) Own												
(b) Adm												
(c) Dir												
(d) Sup												
(e) Tot												

(9) Staff from Outside Merseyside (10) £ Per Week

	MPT	MFT	FPT	FFT	Sea	Cas	MPT	MFT	FPT	FFT	Cas
(a) Own											
(b) Adm											
(c) Dir											
(d) Sup											

(11) Turnover (12) V.A.T. (13) Quarterly Turnover (14) Leisure

	(a) Total	(b) Mersey	(c) Other
(15) Food wholesale			
(16) Drink wholesale			
(17) Other manuf/whole			
(18) Retail			
(19) Repairs			
(20) Other			
(21) Total			

(22) Total Income (23) Income to Merseyside

	Gross	N.I.	Tax	Net		Gross	N.I.	Tax
Wages FT				Wa				
Wages PT				Dr				
Profit				Ad				
Rent				Re				
Rates				Ra				
Total				To				

QUESTIONS AND GUIDANCE NOTES TO QUESTIONNAIRE

Please record answers in pencil. If in doubt record as much information as possible and enquire whether we might contact them again by telephone if necessary.

1) **Code Number for Business?**

2) **Date of Interview?**

a) Day
b) Month

3) **Type of Business?**

In box (a) types are:

1) Hotel 101+ bedrooms
2) Hotel 51-100 bedrooms
3) Hotel 11-50 bedrooms
4) Hotel 1-10 bedrooms
5) Guest House
6) Rented Self Catering
7) Private House (B&B)
8) Camp/Caravan Site
9) Restaurant
10) Public House
11) Department/Chain Store
12) Food Shop
13) Other Retail
14) Visitor Attraction (museum etc)
15) Theatre/dance/cinema/bingo etc
16) Local Authority Facility
17) Food Suppliers
18) Drink Suppliers
19) Other Suppliers
20) Building Contractors
21) Other Accommodation

In box (b) types are:

1) Sole proprietorship/partnership
2) Private limited company
3) Public limited company

In box (c) locations are:

1) Liverpool
2) Outside Liverpool

Put the appropriate numbers in each box.

4) **How many establishments are included in the information provided?**

5) **To which calendar/financial year does the information provided relate?**

The data is for year ending: month in box (a), and year in box (b).

6) **How many all-year jobs were provided in the business in the financial/calendar year?**

For each type ask:

a) How many worked in the business?

b) How many were male and of these how many worked full-time and how many part-time?

c) How many were female and of these how many worked full-time and how many part-time?

The categories in the questionnaire are:

a) "Own" equals owners and includes directors of private limited companies.
b) "Adm" equals managerial and office staff.
c) "Dir" equals waiters/waitresses, barstaff, shop assistants, receptionists etc.
d) "Sup" equals porters, cleaners, chefs etc.
e) "Tot" equals the total number in each classification.

and

a) MPT equals male part-time
b) MFT equals male full-time
c) FPT equals female part-time
d) FFT equals female full-time

Part-time workers are those who work less than 30 hours per week on a regular basis. Thus they include, for example, saturday staff in shops. They do not include casual staff who are covered in question 8. Casual staff are those who generally work less than 8 hours per week. Whether they work depends on the level of business. Thus hotels, for example, may have a "pool" of casual staff, such as waitresses, from which they draw for functions. The hotel may have functions every week but the staff will be taken on for a specific function and therefore numbers and persons will vary.

7) **How many additional jobs were necessary to cope with additional business during the summer?**

Question format/classifications the same as for question 6.

Additional (seasonal) jobs are those of less than 6 months duration which are required during the summer months as a result of increased trade.

8) **How many casual staff are employed in an average week in the winter and how many are employed in an average week in the summer?**

The distinction between casual staff and part-time staff was given in the guidance notes to question 6.

9) **Do any members of the workforce live outside Merseyside?**

As in format of question 6, ask how many of each type of workforce member live outside Merseyside.

The additional job classifications are:

a) "Sea" equals seasonal
b) "Cas" equals casual

10) **What were the average weekly earnings (excluding employers N.I. contributions) in each of the workforce categories shown?**

Question format/classifications as for question 6.

Ensure that if average wages not given that number and types of staff not eligible for NI contributions are recorded.

11) **What was the total turnover of the business (including VAT if paid)?**

12) **What was the amount paid for VAT?**

13) **What was the quarterly turnover of the business?**

Quarters are:

a) January to March
b) April to June
c) July to September
d) October to December

14) **Approximately what proportion of your turnover is accounted for by holiday and day visitors to Merseyside?**

15-21) **How much did the business pay out for each of the items shown?**

For each type of business cost ask:

a) How much was paid out in total? (for "purchases for resale" - Q.15, 16 and 17 - the amount is after adjustment for opening and closing stocks).

b) Of this amount (a) how much was paid to suppliers located in Merseyside?

c) Of this amount (a) how much was paid to suppliers from elsewhere?

The location of the supplier is defined as where the supplies are delivered from.

Retail is those goods which are not bought from a manufacturer/wholesaler. Repairs covers maintenance undertaken by building/electrical contractors who are not employed as part of the business. Incorporate any "head office administrative costs" as appropriate.

22) **What was the total value-added by the business in the form of wages, profit, rates, rent?**

Part-time and full-time employees "Wages" (including salaries) are:

a) Gross (total) wage costs to business including employers national insurance contributions.

b) National insurance contributions by the employer and the employee.

c) Income tax payments.

It may not be possible for the respondent to provide details of employee N.I. contributions and income tax. If this is the case ensure that question (10) is answered fully.

"Profit" is before tax and includes salaries paid to directors of private limited companies and any national insurance contributions. Also take account of central administration payments where there is more than one establishment, i.e. note the differentiation between trading and net profits in some businesses.

"Rent" is payment for land or property. Some companies may be paying this to themselves.

"Rates" is the payment to the local authority. It probably includes water rates. Make a note of the

amount of water rates and indicate whether or not included.

23) **Of each of, wages, profit, rent, etc., how much was paid to residents of Merseyside?**

Do not ask for the "net" figure, that is the amount after all deductions, during the interview as this is calculated later.

Starting with the "gross" column, for each of the types of income ask:

a) How much was paid in total to residents of Merseyside (including deductions: employers and employees N.I. contributions and income tax)?

b) How much was paid to cover employers and employees N.I. contributions?

c) How much was paid out in the form of income tax?

The categories of income listed are:

a) "Wa" is the Wages paid to staff.
b) "Dr" is Drawings and is the amount taken out of the business by owners (including directors of private limited companies) for use as disposable income. Deductions include N.I. contributions.
c) "Ad" is Retained Capital and is the amount of profit retained within the company (an "addition to capital").
d) "Re" is the Rent paid on property.
e) "Ra" is the Rates paid to the local authority.
f) "To" is the Total local income.

Profit in question 22 is, if paid to residents/companies in Merseyside, divided between "drawings" and "retained capital". Thus the sum of these two should not generally exceed the figure for profit in question 22. If it does check whether question has been understood/answered correctly.

While the questionnaire is laid out as it is it may not be possible for the respondent to answer in this way directly. It may be the case that the figures for national insurance contributions and income and corporation tax will need to be calculated after the interview.

PART THREE

AN EVALUATION OF THE METHOD AND THE FINDINGS.

CHAPTER EIGHT

AN EVALUATION OF THE METHODOLOGY AND THE DEVELOPMENTS OF THE METHODOLOGY INCORPORATED IN THE STUDIES ON WHICH THIS THESIS IS BASED

INTRODUCTION

The objective of research into the economic impact of visitor spending is to provide information that will assist tourism planners in the formulation of policies. In an ideal world, where time and money are no object, economic impact research would be based on an ideal model and an ideal data set. Impact research, however, is not set in an ideal world and, therefore, the objective has been to provide results of a sufficient quality for the research to provide usable information.

The previous chapters have examined in some detail the components of the research. This research has not been unconstrained in that the studies on which this thesis is based arose because planners and policy makers needed to know the nature and size of the impact of visitor spending. Therefore the work that was undertaken was heavily influenced towards meeting those needs within a limited budget and, as importantly, a limited timescale. As a result, within any individual study, there was only limited opportunity to develop the methodology. However, over the course of all the studies there has been progressive development of the methodology to provide more informative and reliable results.

This chapter, therefore, begins the overall evaluation of the contribution that the studies on which this thesis is based have made to the methodology of

proportional multiplier analysis and to the understanding of the economic impact of tourism. There is, of course, overlap between the two areas of contribution to understanding. The contributions of the studies arose through consideration of tourism in changing contexts, through re-assessment of the model, through revision of the data collection methods and data collection requirements, and finally, the changes in the way in which the results are presented which includes the presentation of different types of result. Although there is potential overlap, this chapter is broadly concerned with the methodology while the next chapter is broadly concerned with the results.

CRITERIA FOR ASSESSMENT

The contribution of the methodology, and of the studies on which this thesis is based, can best be judged in general terms in respect of objectivity, reproducability and systematisation as well as the considerations of specification as detailed in Chapter Two. The reason for this is that by the nature of the data collection and analysis there is no direct measure of accuracy. As a result the best yardstick is how well the research matches upto accepted practices in respect of the planning process involved and in respect of the design and application of sample surveys and questionnaires.

Pizam has indicated the main characteristics of each of objectivity, reproducability and systematisation (1986). Objectivity requires an approach which is independent of the personal views of the researcher. Reproducability means that using the same, or similar procedure, other researchers could duplicate the

approach and obtain similar results. Systematisation requires each step to be planned so that it will yield the information necessary cost effectively.

In Chapter Two the main elements in a consideration of specification were outlined. These elements related to coverage, relevance and accuracy. Coverage and relevance are fairly simple concepts in that they require the data, and the model to which the data are applied, to actually measure the aspect on which the analysis is focused. Accuracy is a more difficult concept to define. As stated earlier the definition of accuracy is dependent on the objectives of the research and the context of the research. In some contexts an error of plus or minus 10 per cent is acceptable whereas in other contexts the acceptable error may be plus or minus 5 per cent. For the studies on which this thesis is based there is no such numerical measure of accuracy available therefore the final assessment of accuracy has to be based on assessment of the data collection procedures, the analysis procedures, and the reasonableness of the results. Such an assessment is, inevitably, subjective.

AN EVALUATION OF THE MODEL AND THE DEVELOPMENTS OF THE MODEL

The core of economic impact analysis is the development of a multiplier. There is, however, no single multiplier but a number of different multipliers each concerned with different aspects of economic activity, for example income, employment and purchases. The basic purpose of a multiplier is to act as a measure of the change in economic activity resulting from the introduction of new financial resources into an area.

As explained in Chapter Two estimating multipliers can be undertaken in a number of different ways: the export base method, the traditional keynesian method, the input-output method and the proportional multiplier method. Each of these methods has strengths and weaknesses dependent on the objectives of the application. For tourism studies, however, as has been shown in Chapter Two, it is the last of these methods, proportional multiplier analysis, which has been chosen. The proportional multiplier method seeks to combine the desirable quality of the traditional keynesian multiplier, relative data parsimony, with the desirable quality of input-output analysis, disaggregate results allowing for the identification of the structural processes.

There are three main features of proportional multiplier analysis. Firstly, the results obtained are expressed as a proportion of the injection rather than as an increment to the direct effect. Secondly, it is a modified form of input-output analysis. Separate equations are used to represent each principle business activity but only a limited number of business types are modelled. As a result the extent of the data collection necessary is reduced. Thirdly, the basis of the approach is to use expenditure as the link through the three stages of circulation of money in an economy.

Income Creation as an Example

The previous chapters have provided detailed specifications of each element of proportional multiplier analysis in terms of the equations modelling visitor spending, purchasing by businesses, income creation by businesses, job creation by businesses, and finally, the combining of each of these elements into a final analysis of each type of impact. Thus, for

example, the final model for income creation can be stated as:

$$G_y = \sum_{j=1}^{J} \sum_{i=1}^{I} N_j Q_j K_{ji} \left[\frac{\sum_{d=1}^{D} \sum_{i=1}^{I} Y_{id} + \sum_{r=1}^{I} \sum_{i=1}^{I} P_{ri} Y_i}{\sum_{i=1}^{I} T_i} \right] \left[\frac{1}{1 - L\left(\sum_{i=1}^{I} X_i Z_i Y_i \right)} \right] \quad (1)$$

where:

G_y = the total local income generation resulting from tourist spending

N_j = the number of days spent in the area by the j^{th} type of tourist

Q_j = the average total expenditure per day by the j^{th} type of tourist

K_{ji} = the proportion of spending by the j^{th} type of tourist accounted for by the i^{th} type of business

Y_{id} = the direct income generated by the i^{th} type of business

P_{ri} = the cost payments for goods and services purchased from the i^{th} type of local business by the r^{th} type of local business

Y_i = the income generation coefficient (direct and indirect) of the i^{th} type of local business

L = the average propensity to consume

X_i = the proportion of local resident spending accounted for by the i^{th} type of business

Z_i = the proportion of local resident spending in the i^{th} type of business which is spent in the local area

T_i = the turnover of the i^{th} type of business

Limitations of the Model

Proportional multiplier analysis, as exemplified by the equation above, is an attempt to model the processes involved within an economy. As such the analysis requires a number of assumptions to be made. These assumptions mean that the analysis does not mirror reality exactly but presents a modified picture. Before looking at these assumptions, however, it should not be assumed that they reduce the value of the method vis-a-vis other methods. Models by their nature are simply logical presentations of the outcome of selected assumptions and quantitative applications of economic models require assumptions to be made to allow calculation of the result. As the assumptions presented below are well documented in the literature, mainly in the context of input-output analysis, only a brief account of them is given. A more detailed exposition in the context of studies of tourism is given in "Tourism Multipliers: The State of the Art" (Archer, 1977a).

The first assumption is that the model assumes that production functions are linear. That is, it is assumed that any additional production undertaken will require inputs in the same proportion as previously. Such an assumption ignores the possibility of economies and dis-economies of scale.

The second assumption is that the analysis assumes that trading patterns remain stable and that businesses will continue to use local suppliers in the same proportions as previously. This may not be the case as business expansion may result in different purchasing requirements and also new businesses may enter the economy to take advantage of increased business.

The third assumption is that supply is elastic. Thus it is assumed that there are unemployed resources within the economy which can be used to meet increased demand.

The fourth assumption is that consumption functions are linear. Thus the assumption is that as household incomes rise these incomes will be spent on the same products, and in the same proportions, as previously.

The fifth assumption is that average rather than marginal changes/relationships are acceptable in the analysis of production and consumption functions. Thus it is assumed that the use of average values is not seriously affecting the results.

The sixth assumption is that all effects are 'instantaneous'. The assumption is, therefore , that there is no time lag involved between the introduction of money and the effect on incomes, jobs and local purchasing by businesses. Thus, while the model is based on eventual impact, the interpretation of the results is not. This may have implications for planning as the impacts may not occur within what is regarded as a 'reasonable' planning period.

The seventh assumption is that developing static as opposed to dynamic multipliers will not give misleading results. The multipliers which are estimated are static. That is, the multipliers only include the impact resulting from current productive facilities without any provision for expansion through investment. A dynamic multiplier would be more elegant but substantially more difficult to measure than a static one. However, as Archer has stated, since researchers are generally interested in the impact at a moment in time, and since the circulation of visitor spending is generally completed within four or five rounds because

of heavy leakages, not much is lost by focusing on static multipliers (1977, p42).

The eighth assumption only affects the employment multiplier. This assumption is that in a business there exists a continuous proportional relationship between turnover and the level of employment. Thus, with this assumption, a marginal increment to turnover is assumed to produce a proportionate increase in employment. As discussed in Chapter Six such a situation is unlikely in reality because while money can be divided into extremely small units employment cannot be divided so readily. Thus there is likely to be both a threshold level before new jobs are created and a ratchet effect in terms of laying off staff. However, Henderson has suggested that this continuous relationship between turnover and jobs is a reasonable assumption when averaged over all enterprises within a business type (TRRU, 1975, p144).

The final assumption is that there are no repercussive feedback effects. Thus the model does not include an assessment of the effects on the level of income in the area being studied resulting from additional purchases from businesses in the host area induced by the rise in incomes in other areas as a result of the initial spending by visitors. Quite detailed literature on this exists in general terms, for example an article by Black: "Injection Leakages, Trade Repercussions and the Regional Income Multiplier" (1981).

Evaluating such limitations is difficult as what is in question is the difference between what is best and what is possible. For example, as Archer comments, the use of average or marginal production coefficients has been a matter of debate amongst economists for some time. He also indicates that there is no agreed

solution except to recognise the problem. As he states there are no guiding rules to follow, and the problem is not eased by the fact that this weakness of input-output analysis is also one of its principal strengths as it results in much easier computations. In addition Archer asks "how are....[marginal coefficients]....to be assessed" (1977, p38) and points to the difficulties in choosing which marginal coefficient to use and of obtaining the data.

An Evaluation of Model and the Advances Made

Research into the economic impact of visitor spending is a cumulative body of knowledge. As Pizam has observed,

> "no study starts de novo. In general each study rests on earlier ones and provides a basis for future ones. Investigators that build their studies upon work that has already been done have a better chance of contributing to knowledge than those who start anew" (1986, p65).

As indicated in Chapter Three the studies on which this thesis is based did not start from scratch. The specification of the model adopted in the studies of the income generation process, and by implication job creation, is much the same as that adopted for Tayside. Thus the basic structure of the model has remained essentially the same but, in the course of the studies on which this thesis is based, it has been made more 'accurate' and the range of information for planners and policy makers has been increased.

The accuracy has been increased because the specification of the income which is circulated through

the induced income element of the model has been changed. Since 1982 only direct and indirect wages, salaries and drawings from profits have been fed through the modified keynesian multiplier. Retained capital and rent have been excluded. Thus the multiplier element of the model as currently used might be more accurately restated as:

$$Yr = Ay + By + ((Dy)(Cy - 1) - (Dy)) \quad (2)$$

where:

Yr = the income generation coefficient for a business of type r

Ay = the direct income coefficient

By = the indirect income coefficient

Dy = the direct and indirect coefficient for wages, salaries and drawings from profit

Cy = the induced income coefficient

with each coefficient showing the relationship between £1 of turnover and the resulting income. Ay, By and Cy are as specified in equation 1 for direct, indirect and induced income. The effect this has on the results is demonstrated later in this chapter.

The content of the results has been increased through the more detailed specification of the components of the direct impact. Thus, post 1981, the application of the model has provided a detailed analysis of the types of income created and the types of employment. For income there has been the sub-division between wages and salaries, drawings from profit, profit retained within the business as an addition to capital, and finally, rent. For employment there has been division

of the results on the basis of the type of worker (working proprietor, all-year employee, seasonal employee), the sex of the worker (male and female) and the nature of the employment (full-time, part-time).

Thus while the basic framework of the model has remained the same (the division of the impact into three stages of impact: direct, indirect and induced), the complexity of the analysis has increased to meet the needs of policy makers for an indication of who benefits as shown in Chapter Nine. It is interesting to note that, as yet, this flexibility of the model to provide a fairly sophisticated analysis of the direct sector has not been recognised by other researchers and commentators. For example, Jackson has stated that:

> "no account of income distribution is made within the framework of the models, yet different types of tourist will not only generate different amounts of local income and employment but that income and employment is likely to accrue to different groups within the local economy. Any assessment of the benefits should take this into account" (1986, p49).

The third advance was the introduction in two studies of a sales or purchases multiplier. The components of this analysis were detailed in Chapter Five. The analysis provided new insights into the strength of the linkages between tourism enterprises and the economy within which they are set as shown in Chapter Nine.

The fourth advance is more of a re-assessment of the information the model can provide. Thus studies prior to that of the national parks (TRRU, 1981) were concerned with presenting the information on the basis

of visitor types, that is they were at the level of the industrial sector. The inclusion of an analysis based on business type instead of visitor type allowed for comparisons between tourism enterprises and other enterprises to be made, as shown in Chapter Nine. This removed the ambiguities inherent in an analysis in which visitor spending patterns mask the different contributions of different types of enterprise.

An example of the implications of such ambiguity is the response to the results obtained for visitors using caravan sites. Visitors accommodated on caravan sites spend in a pattern which means that their impact on incomes and jobs is relatively small. However, as shown in the next chapter, given the scale of such enterprises and the nature of ownership, caravan sites on their own have relatively high income and job generation coefficients per unit of turnover. The response of policy makers was to discriminate against caravan sites without considering the option of policies to change the pattern and level of spending by visitors accommodated on caravan sites.

Overall, while the model may have limitations in common with much economic analysis, as a result of the difficulties involved in applying a conceptual model to provide quantitative estimates, it would appear to satisfy the broad measures of evaluation outlined earlier. The model is objective, and the application reproducible, because it specifies in full the specific components of the analysis. By the same token it satisfies the systematisation criterion because it defines a series of data requirements. Whether it satisfies the accuracy criterion under the specification measure might be open to question. The assumptions can be explained but they can only be justified to the extent that they are necessary to make

the application of the model practical. However, as Rovelstad has commented, models are:

> "simplifications of reality. Given this, no model can fully incorporate all of the variables and dynamics of the real world. What they can do is help management to understand and deal with complex situations more effectively and thoroughly" (1987, p456).

THE FRAMEWORK OF DATA COLLECTION

The objective of the research on which this thesis is based has been to answer the question, posed by the public sector, about how much tourism was worth. This question has been put in a number of ways:

a) how much of an economic impact does tourism have on the economy?

b) does the economic impact of tourism have any particular characteristics?, and

c) how might future tourism developments affect the economy?

In providing answers to these questions the research has not been a hit-or-miss affair. In addition to the specification of the components of the model, and the modifications to the model, as discussed above the research has involved the systematic gathering of information from respondents for the purpose of understanding and/or predicting the economic impact of tourism.

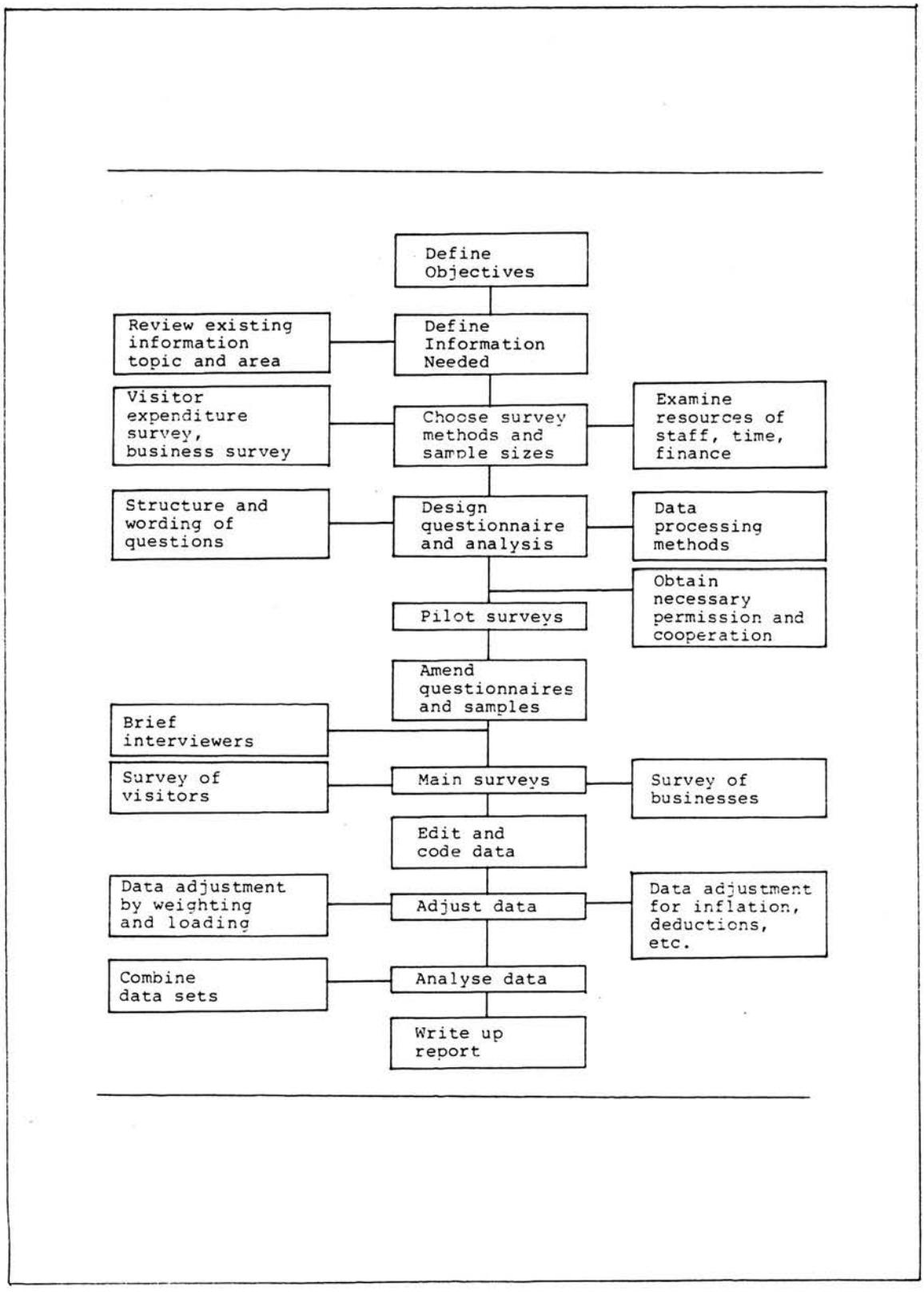
The research has been undertaken using a systematic approach to data collection. The systematic approach can be divided into four broad phases: preparation, execution, analysis and reporting. The elements in each of these four broad phases are given in Figure 8.1.

The specific components of each of these phases have been considered in more depth in chapters four to seven inclusive in relation to specific aspects of economic impact research. However, the overall objective of any research design is to secure data on which the analysis can be based. In economic impact research, as indicated in Chapter Four, Chapter Five and Chapter Six, there have been three major methodological problem areas: obtaining representative samples, developing and administering questionnaires and estimating visitor numbers. While the model is acceptable, given the limitations, and the study systematic the end result is only as good as the data used. Thus the solutions to these problems are the key to the accuracy of the results. During the studies on which this thesis is based the data collection procedures and the data collected have been revised to make the contents of the analysis more relevant and accurate.

AN EVALUATION OF THE METHODS USED AND THE ADVANCES MADE IN OBTAINING A REPRESENTATIVE SAMPLE

There are many texts dealing with the theory of sampling and it is not part of this thesis to duplicate them. The intention of this section of the chapter is to evaluate the validity of the sample surveys conducted in order to establish the economic impact of tourism. This is necessary because most of the theory

FIGURE 8.1: FRAMEWORK OF THE STAGES IN AN ECONOMIC IMPACT STUDY



and practice of sampling has been developed in the sphere of home interview surveys and the surveys involved in an economic impact study of tourism are subject to special problems which make the normal numerical method of assessing accuracy (the calculation of standard errors) potentially misleading. It is not known whether the survey of visitors and the survey of businesses are based on a normal distribution and consist of random samples. Without these standard errors cannot be specified with certainty. As a result the accuracy of the data collected, and by implication the results produced, can only be judged subjectively in respect of whether the procedures adopted counter the potential introduction of bias and error in the data. This is explored in the next part of this section of the chapter.

The Problems of the Types of Survey Conducted

The previous chapters identified the problems encountered in obtaining a representative sample during the surveys necessary for economic impact research. There were three major difficulties: defining the population, defining the sample frame and setting the sample size. Whilst these are problems in all surveys they are more acute in the types of survey involved in the economic impact studies on which this thesis is based for the reasons given in the previous chapters.

The first difficulty encountered in the research was defining the population from which the samples were to be drawn. In defining this it was necessary to ensure that the definitions were complete and neither excluded respondents who should be included nor allowed for ambiguity in respect of inclusion.

For visitor surveys initially defining the population

has not been a problem. The visitors to be included have been defined by the policy objectives of the study. However, what has been a problem is that no knowledge of the visitor population has generally been available before the survey was conducted. All that was known was that there were likely to be visitors of different types. The number of visitors making up each type was unknown, as was where visitors of certain types (for example, those staying with friends and relatives) could be found during a non-cordon survey.

This meant, as detailed later, that standard procedures such as those for setting sample size, as described in the textbooks on survey methodology at the time the first of the studies on which this thesis was based was conducted, could not be used. New procedures and methods had to be devised. Again however, as stated earlier, no work is conducted in isolation. The procedures developed were guided, in the sense of providing a background knowledge, by the literature on standard household survey procedures and by the pioneering work of TRRU during STARS (1975) and Greater Tayside (1975).

For the business survey defining the population has been far more difficult. As detailed in previous chapters, defining which businesses are tourist-related is hazardous. The specification of the population of tourist-related businesses has had to be based on educated guesswork. It is educated in the sense that the selection of types is broadly defined in the data collected during a visitor survey and by personal experience. However, it may be that some businesses have been excluded, although it is unlikely that their exclusion has significantly affected the overall accuracy of the results.

The second difficulty was specifying the sampling frame. A sampling frame is a list of the units in the population (or universe) from which the units in the sample will be selected. In economic impact research on tourism there have been two particular difficulties.

Firstly, a sampling frame for visitors has not been available before the work was undertaken. As detailed above, most visitor surveys have been conducted in areas for which little or no information existed and this has required a different emphasis to that adopted in household surveys where the base population from which the sample is to be selected is known beforehand.

The different emphasis has been geared towards eliminating bias in the data. Thus while in household surveys the size of the sample is generally the key consideration in accuracy, given that the standard errors can be calculated and the representativeness of the sample can be verified from other data and suitable adjustments made if necessary, in visitor surveys the key consideration has been the elimination of bias. The reason for this change of emphasis is that one major function of the visitor surveys has been to provide the base data about the composition of the visitor population. There has been little or no information by which the results could be verified or adjusted and an emphasis on sample size does not help in a situation where the survey procedures might have obtained a completely false picture of the level and pattern of visits. Thus while realistic sample sizes have been important, to ensure that claims are not made on the basis of sample sizes that are obviously too small, they have not been of over-riding importance.

Secondly, the business surveys were based on incomplete lists. The composition of the lists, especially for some types of accommodation, was dependent on the advantages/disadvantages of being on other lists such as directories of accommodation or directories of local businesses. Therefore, for business surveys as well as visitor surveys, there has been the problem of specifying the sampling frame. Again the concern has been to limit the possibility of bias in the selection of businesses and business types. Thus, as detailed later, there have been changes in the composition of the businesses considered. These changes have been aimed at producing a more comprehensive sampling frame based on businesses which have similar characteristics.

The third problem has been to determine the size of the sample to be selected. The text books on survey research detail the methods of calculating sample size, before the survey is conducted, on the basis of 'allowable' errors. In visitor surveys and business surveys, however, the research has not been able to follow the standard procedures because in both cases, as indicated above, there was little or no knowledge of the population available before the survey.

In practice in both the visitor and business surveys the size of the samples has been a compromise between statistical desirability and the practical aspects of time and cost. However, the size of the samples specified has not been completely arbitrary in that they have been guided by the likely variability of the data and the complexity of the analysis intended. Thus there have been three basic factors considered when setting sample size.

The first factor was the nature of the people/businesses from which the sample was being

drawn. It was important to consider whether the people/businesses were similar or widely divergent in their characteristics. The second factor was the practicalities of the fieldwork. It was important to consider how many interviews could realistically be expected in the time and with the number of interviewers available. The third factor was the method of sampling. There are a number of ways by which the size of a sample can be reduced and still give acceptable results. Thus the sampling method can incorporate two-stages and the analysis an adjustment procedure. These methods have proved vitally important in a research context where time and money were limited.

An Evaluation of the the Survey Designs and the Advances Made

The advances made, in respect of survey design, during the studies on which this thesis is based, are all related to the problems identified above. These problems distinguish both field surveys of visitors and business surveys from the standard household surveys of statistical textbooks.

The keynote of the advances is that, as stated in an earlier chapter, the sampling errors on any rational design involving at least a moderate size sample are likely to be substantially smaller than non-sampling errors. That the non-statistical errors (bias and mistakes) may outweigh the sample error is particularly the case in the type of research covered by this thesis as detailed above.

Bias is an ever present possibility in visitor surveys which are not based on households. It has been important to be careful in visitor surveys about the

timing of the survey, the location of the survey points, the definition of the sampling unit and the selection procedures. Increasing the sample size could not reduce the error resulting from a badly conceived survey design.

Identifying the advances in visitor surveys, however, is difficult because most of the solutions to the problems of potential bias have been context oriented. Thus, for example, in the study of Merseyside the survey design was based upon reducing the potential sources of bias, such as interviewing day visitors too early in their visit, given the particular context of Merseyside. However, despite the influence of context, a number of advances can be identified.

The first of the advances is the simple achievement of survey designs which produce reasonable results. In particular there is the development of cordon surveys and roadside interviewing. While it obviously cannot be claimed that the development of such designs was the exclusive preserve of the studies on which this thesis is based they have nonetheless contributed to the general development of knowledge about the feasibility of field surveys. A notable point for instance was that when the Edinburgh Festival survey was being mounted there were many 'knowledgeable' people who doubted whether the survey, particularly of the Tattoo, could be accomplished given the practical constraints of time available before and after performances. Also in field surveys, and in respect of cordon surveys and roadside interviews in particular, the studies have demonstrated that it is possible to obtain quite complex information about visitors and their spending in conditions that are not ideal in that the interview will take place out of doors and will be longer and more detailed than would appear feasible.

A more easily identifiable advance in the studies, and one which will be returned to later in the context of questionnaire design, was the introduction of two-stage interviewing. As detailed in Chapter Four, the Edinburgh Festival survey introduced the idea of having two questionnaires each of which were aimed at different types of visitor. In the case of the Edinburgh Festival study there was a short questionnaire to be completed for visitors who were not attending the festivals and a longer detailed questionnaire to be completed for visitors attending the festivals. Thus basic information about the characteristics of all visitors to Edinburgh at the time of the survey was obtained through the short questionnaire and more detailed information about those attending festival events through the longer questionnaire.

This combination of short and long interviews was more fully developed in the survey of visitors to Exmoor. Thus in the Exmoor study interviews in the visitor survey began with a short questionnaire which was concerned with basic information such as origin and accommodation used. Only a sample of the visitors who completed the short questionnaire, however, progressed to the longer more detailed questionnaire. This development of two-stage interviewing had the advantage of providing detailed planning information about the visitor 'population' based on quite large sample sizes while allowing spending information to be collected more selectively. In this context selectively means that sample sizes could be set for individual types of visitor and the sampling of visitors in respect of spending could be varied to ensure that the subsequent analysis would be based on realistic sample sizes and not based on sample sizes determined by the relative numbers of different types of visitor. As a result not

only was the quality of the data improved so too was the efficiency of the interviewing.

The advances made in the business survey have also been governed by the need to reduce the possibility of bias in the sample. The modifications/advances have been guided by the need to take account of the skewed distribution of turnover between different types of business and within the same general type of business.

The first advance, therefore, has been to move away from simple stratified random sampling to a more complex stratified sampling. In the early studies, of which the Edinburgh study was one, the sampling was stratified according to broad types of enterprise. Thus, for example, a simple random sample of hotels was conducted. The problem with such a simple scheme is that the sector called hotels takes in an extremely wide range of enterprises going from the small (under 11 bedrooms) hotel run by a family to the large (over 100 bedrooms) hotel operated by national and international hotel groups. The problem that has to be overcome in sampling is that while there may be very few large hotels they may contribute an extremely large proportion of the market and of the impact on visitor spending, incomes and jobs. Simple random sampling may, however, not result in the inclusion of the large hotels because of the large number of small hotels. Thus regardless of sample size if the large hotels are not covered the result of the analysis will be inaccurate. The advance, therefore, has been to increase the complexity of the sample frame to take account of potential differences between numbers of businesses of different sizes and their economic importance. In the context of hotels this has resulted in a division into four size categories (less than 11 bedrooms, 11 to 50 bedrooms, 51 to 100 bedrooms and 101

or more bedrooms). The implications of this for the results are explored later in this chapter.

The second advance was the development of weighting in the analysis of businesses and was required because of the more complex sample frame. Prior to the study of Scotland (Vaughan et al, 1987) no weighting was undertaken within different types of business. The weighting was purely in terms of the distribution of visitor spending between different types of business (hotels, shops, restaurants etc). Since 1981 weighting has been required to counter-act the bias introduced by the sampling design. This has only been fully implemented in the study of Scotland (Vaughan et al, 1987) where the different types of business were weighted using details of the accommodation within the area derived from inventories of the accommodation stock and from data derived from the Census of Employment. In subsequent surveys only the accommodation businesses have been weighted according to size. The other enterprises have been weighted according to the pattern of spending by visitors (for example purchasing of food as opposed to souvenirs). The implications of the introduction of weighting in terms of the results are explored later in this chapter.

Overall, as was the case for the evaluation of the model the survey design procedures and the advances made demonstrate that the studies have been objective, are reproducible and have been conducted systematically. They have brought about advances in knowledge about the design and application of survey techniques in respect of field surveys of visitors and surveys of tourist-related businesses. These advances have been geared towards satisfying, as well as possible, the accuracy component of the specification

criterion. Thus the developments have improved the relevance and coverage of the survey designs and have increased accuracy, although no definitive quantitative assessment of this increase is possible, by reducing the potential sources of bias within the sampling procedures. However, while no definitive quantitative assessment of the increase in accuracy is possible a later section of this chapter, as indicated above, provides indications of the likely increases in accuracy as a result of the advances made in the design of the business survey.

AN EVALUATION OF THE QUESTIONNAIRES USED IN THE STUDIES AND OF THE ADVANCES MADE IN DESIGNING AND ADMINISTERING SUCH QUESTIONNAIRES

Questionnaires are simply a formalised approach to obtaining information. Questionnaires can be subject to a number of different types of error and again these can be more significant than the standard error. Text books, however, tend to concentrate on the description of standard errors. This section concentrates on the questionnaires used in economic impact assessments. Ultimately the results are only as good as the questionnaire used.

Considerations in Questionnaire Design

Designing a questionnaire is made up of a number of decisions. These decisions are aimed at reducing the possibility of error/bias in the data which may result from the mis-recording of information supplied by the respondent, interviewer bias through not asking questions, or filling in the answers later, either deliberately or by accident, and the misunderstanding

of the answer required. The design of a questionnaire, in seeking to reduce the possibility of error, is based on judgements relating to the type of questionnaire, the content of the questions, the phrasing of the questions and layout of the questionnaire. The design of business and visitor survey questionnaires had to take account of each of these and, in particular, the specific problems imposed by the nature of the data required, as discussed below.

The first specific problem in questionnaire design during the studies on which this thesis is based was on the type of questionnaire to be used. The surveys could have been conducted using questionnaires administered during personal interviews or self completed questionnaires.

In both types of survey undertaken, visitor and business surveys, the choice has been to undertake personal interviews despite their being more expensive than the alternatives (self-administered questionnaires). There have been four reasons for this. Firstly, random sampling in visitor surveys could be pre-determined and therefore controlled. Secondly, the purpose of the survey could be fully explained. Thirdly, the correct understanding of questions could be ensured. Finally, rapport could be built up and result in data from even an unwilling respondent. Reasons two to four, inclusive, were particularly important in the context of the business survey.

The second specific problem in questionnaire design for the studies on which this thesis is based was to decide on the content of the questionnaire and the number of questions. For all surveys it is important to consider whether the question is needed, whether it will give

the required answer and whether there are any biases present. In the case of economic impact research, however, it is particularly important to take account of whether a respondent can or will answer. This can depend on two things. Firstly, the ability of the respondent to recall the information required. Secondly, the willingness of the respondent to answer.

In visitor surveys the crucial consideration is the ability of the visitor to recall the spending which has taken place. Thus there was the problem of the choice of the length of period for which spending information was asked. The longer the period the more likely that the information would be representative of spending during the visit. However, this needed to be balanced against the likelihood that the longer the period of recall the more likely that spending would not be recalled accurately. In addition there was one further consideration in respect of the period over which visitors were asked to recall their spending. The longer the period of recall the longer the questionnaire would take to complete and therefore the more likely that the visitor would lose interest and either fail to complete the interview or would give false or inaccurate answers in order to complete the interview more quickly. For these, and the reasons given in Chapter Four the choice in two out of the three visitor surveys on which this thesis is based was to adopt the shortest period of recall possible, 24 hours.

Owing to the nature of the information asked for in the in the business surveys, the willingness to answer was a crucial consideration. The respondent may refuse to answer a specific question(s) or may provide incorrect, but seemingly plausible, answer(s) deliberately. This may come about because the respondent considers it none

of the interviewers business, is embarrassed or because he/she thinks that the answer will reflect on his/her prestige or image. The problem of the incorrect answer is the most difficult to counter. As will be shown in the next part of this section, however, the business survey questionnaire has been revised to take account of this problem.

An Evaluation of the Advances in the Questionnaires Used

There were advances in the design of both the visitor survey questionnaire and the business survey questionnaire during the course of the studies on which this thesis was based. These differences were both in content and in structure/layout. The individual advances in content have been dealt with in the relevant chapters, for example the inclusion in the visitor survey questionnaire of more help on what types of spending might have taken place, and therefore it is not proposed to repeat them here. The main advances, however, were in the structure and layout. While these were also covered in the relevant chapters they are important enough in terms of overall implications to need repeating in this context.

As indicated in connection with survey design the main advance in respect of visitor questionnaire design was the adoption of a two stage interview and by implication a two stage questionnaire. The first stage was a filter section which provided details about the visitor (accommodation used, transport used, length of stay, number of people in the group and so on). These are the main variables which are required for planning purposes in that they define the composition of the visitor population. The second stage covered the spending of visitors and other information that might

be required about attitudes and motivations and so on. This new structure improved the accuracy of both the basic statistical information on the visitor population and the information on visitor spending for the reasons outlined earlier (basically the increase in the number of visitors completing the questionnaires or specific parts of the questionnaires).

For the business survey the main advance in questionnaire design came about in 1982 with the complete revision of the layout and structure of the questionnaire. Prior to 1982 the business survey questionnaire had followed traditional lines with the questions and answers being on the same form. As a result the questionnaire covered a number of sheets of paper and it was difficult to check the consistency and validity of the answers. In 1982, however, the questions and the answers were separated. This allowed for simple cross checking during the interview and for more detailed advice to be given to the interviewer about the nature of the question and the nature of the answer required.

Overall, there are no golden rules by which the quality of questionnaires can be judged. The quality can only be determined by reference to the needs of the survey. However, the overall objective is to eliminate bias in the questions and the way that they are asked. Thus the advances to the questionnaires have probably improved the accuracy of the data used in the analysis in that the coverage and relevance of the data has been better specified and the respondent has been given more help in supplying the answers. In addition, in the business survey it was more practical to check the validity of the answers supplied.

TESTING THE MODEL AND THE ADVANCES

This thesis has examined the development of, and the data collection procedures involved in, proportional multiplier analysis of the economic benefits provided by visitor spending. This section of this chapter evaluates quantitatively a number of the elements of the model and the data collection. The first part takes the advances identified in this chapter in respect of the specification and analysis of the business survey and the re-specification of the income fed through the induced element of the model and demonstrates the difference they made to the results. The second part looks at the implications of varying a number of elements in the model. The third part of this section briefly looks at the consistency of the results produced.

A Quantitative Evaluation of Improved Sampling, the Introduction of Weighting and the Re-Specification of the Income Circulated through the Induced Multiplier

The first, and main, advance in the business element of the studies on which this thesis is based had two parts. These parts were the more complex stratified sampling based on the size of the establishment and the complementary introduction of weighting by business type. These advances were first introduced in 1981 and they have had a significant effect on the accuracy of the results produced.

The need for the introduction of a more complex stratified random sampling can be seen in Table 8.1. In this table the total coefficients (consisting of the direct, indirect and induced effects) for income (per £100 of turnover) and for employment (per £100,000 of

TABLE 8.1: The Coefficients of Income and Job Creation of Hotels in Merseyside.

Type of Hotel by Size (Bedrooms)	Total Impact	
	Income	Jobs
	Per £100 of Turnover	Per £100,000 of Turnover
101+	19	5.8
51-100	25	9.8
11-50	30	11.9
1-10	37	17.4

TABLE 8.2: The Coefficients of Income and Job Creation of Hotels (Weighted and Unweighted) in Merseyside.

Type of Analysis	Total Impact	
	Income	Jobs
	Per £100 of Turnover	Per £100,000 of Turnover
Weighted	26	10
Unweighted	23	8

turnover) are presented for hotels in Merseyside sub-divided into four size groups. As can be seen there are marked differences between these different types of hotel. For instance, a given level of spending within hotels of 1 to 10 bedrooms would result in almost twice as much income, and three times as many jobs, for residents of Merseyside than an equivalent amount spent in a hotel of more than 100 bedrooms. Therefore, given the likely different numbers of hotels within these size groups, a sampling system which does not take into account these differences may produce misleading results if, for instance, certain types of hotel are not covered or other types comprise too great a proportion of the sample.

Once the sampling takes account of these differences between different sizes of hotels it becomes necessary to adjust the data to reflect the relative importance of each type of hotel in the area. This relative importance of different sizes of hotels is a combination of the number of establishments in each size group and the turnover of each establishment. Thus, Table 8.2 presents two analyses of the income and employment created by hotels in Merseyside which are derived from the data in Table 8.1.

In the first analysis the data for hotels are weighted to reflect the relative numbers of establishments, and the associated level of total turnover, within Merseyside. In the second analysis the data are unweighted and simply reflect the sample of hotels obtained. Thus the weighted analysis represents the situation in studies since 1980 and the unweighted analysis studies prior to 1981. As can be seen the results are significantly different in that the income paid out per £100 of turnover of the hotels has increased by 13 per cent and the jobs supported by

£100,000 of turnover of the hotels has increased by 25 per cent.

This increase in accuracy is not only reflected in these total numbers but will, due to the different operating characteristics of the different types of hotel, also be reflected in the analysis of who benefits. In Table 8.3 the composition of direct income and direct jobs (that is income paid out by, and jobs within, the hotels) is detailed. As can be seen there are quite marked differences between the weighted and unweighted results. For example in the weighted results wages account for 71 per cent of income while in the unweighted results wages account for 89 per cent.

The second advance in the specification of the analysis was the revised specification of the money to be circulated through the induced income multiplier. As indicated earlier in this chapter the analysis conducted in the studies prior to 1981 fed all direct and indirect income through the induced multiplier. However, the induced multiplier is based on family expenditure. To feed profit, that is retained within the business as an addition to capital, and rent through this multiplier is wrong as these will not be used in the short run and will probably not be used for personal consumption purposes of the types contained in the analysis.

The change in the specification, therefore, improved the relevance and content of the induced analysis. However, when tested the effect on the results was not large. The impact on the results was that the estimates of total income creation and of jobs supported were reduced by about 1 per cent.

TABLE 8.3: The Composition of the Direct Impact on Income and Jobs of Hotels (Weighted and Unweighted) in Merseyside.

Type of Impact	Type of Analysis	
	Weighted	Unweighted
	Proportion of Impact (%)	
Income:		
Wages	71	89
Drawings	12	4
Other	16	8
Total	100	100
Jobs:		
Proprietors	9	2
Full-Time All-Year	41	61
Part-Time All-Year	47	32
Seasonal	3	4
Total	100	100

A Quantitative Assessment of the Robustness of the Analysis

In constructing a multiplier model a balance has to be reached on its sensitivity. It must be robust enough to withstand substantial changes in the data and yet sensitive enough to measure changes in the components of economic impact. Two aspects of the analysis are considered in this part: the level of purchasing by the direct businesses and the value of the average propensity to consume.

In Table 8.4 two values for the income and employment multipliers of each of the four types of hotel are presented. In the first column the results based on the level of purchasing from businesses located within Merseyside, as found during the survey, are presented. In the second column the results are based on an increase of 50 per cent in the level of purchasing from other businesses located in Merseyside.

The result of increasing the level of purchasing from other businesses by 50 per cent is to increase income and jobs by between 3 and 4 per cent. Thus, in this respect the potential for error in defining and measuring local purchasing during the business survey is perhaps less of a problem than at first sight appears in that even quite a large change results in only a small change in the impact. However, care needs to be taken in transferring this generalisation to other areas. In other areas this may not be the case and the results may simply be a reflection of the hotels in Merseyside.

The second element of the model which can be tested for its impact on the result is the average propensity to consume (APC) which is used in the induced element of

TABLE 8.4: The Effect of Increasing the Level of Purchasing from Businesses in Merseyside by 50 Per Cent.

Type of Hotel by Size (Bedrooms)/ Type of Impact	Level of Purchasing	
	Original	Increased
Income (Per £100 of Turnover):		
101+	19	20
51-100	25	26
11-50	30	31
1-10	37	38
Jobs (Per £100,000 of Turnover):		
101+	5.8	5.0
51-100	9.8	10.1
11-50	11.9	12.3
1-10	17.4	17.8

the model. Generally this is derived from the Family Expenditure Survey (Department of Employment).

When the size of the APC was varied between 0.85 and 0.95 in the weighted hotel analysis the change in the result for both income and for jobs was less than 1 per cent. Income changed from 0.267 to 0.269 per £1 of turnover and jobs from 10.28 to 10.29 per £100,000 of turnover.

The Consistency of the Results

One criterion by which the robustness of the analysis mighht be judged is the consistency of the results produced. There are two difficulties in demonstrating this consistency.

The first difficulty is that the composition of the business surveys, and the results of the visitor surveys, are determined by the nature of tourism within the area under study. Thus the types of tourist for whom results are produced in each of the studies varies.

The second difficulty is that the studies have been conducted in different years. As a result it may be that changes have taken place within the economy in general, or within certain types of business, which might have altered the results from those that would have been obtained in a different year.

However, bearing these difficulties in mind, Tables 8.5 and 8.6 present results for income and jobs in three areas. The analysis presented in the tables was of the spending by visitors classified by the accommodation they used. As can be seen there is a broad similarity between the results. The hierarchy is generally the

TABLE 8.5: Income Creation by Visitor Spending in Brighton and Hove, Winchester and Bournemouth and South East Dorset.

Type of Visitor by Accommodation Used	Area		
	Brighton	Winchester	Bournemouth
	Income per £100 of Visitor Spending		
Hotel	21	17	23
Guest House	24	*	25
Private House (B&B)	@	37	48
Self-Catering (Rented)	£	£	25
Caravan/Campsite	N/A	£	21
Friends and Relations	15	11	15
Day Trip	19	10	17

* Included in coefficient for Hotel.

@ Included in coefficient for Guest House.

£ Not available for confidentiality reasons.

TABLE 8.6: Jobs Created by Businesses in Brighton and Hove, Winchester and Bournemouth and South-East Dorset.

Type of Business	Area		
	Brighton	Winchester	Bournemouth
	Jobs per £100,000 of Turnover		
Hotel	9.3	10	8.3
Guest House	12.3	*	15.0
Private House (B&B)	@	46	28.5
Self-Catering (Rented)	£	£	13.6
Caravan/Campsite	N/A	£	8.8
Friends and Relations	7.1	6	6.2
Day Trip	8.6	5	6.8

* Included in coefficient for Hotel.

@ Included in coefficient for Guest House.

£ Not available for confidentiality reasons.

same although the size of the numbers varies. The results for Winchester are generally lower than in the other two areas. This is probably due to the much smaller area being considered in the Winchester study.

The similarity in the results is returned to in the next chapter where the results of the studies conducted by Archer (1973), Wheeller and Richards (1974). Brownrigg and Greig (1974) and Henderson and Cousins (TRRU, 1975) are compared. Generally, this comparison confirms the view presented here that the studies produce consistent results.

CONCLUSION

The great danger in economic impact research and the way it is presented in research reports aimed at the policy-maker is that in its basic concept and application it is deceptively simple. But, as Archer has commented:

> "confusion has been created by the intrusion into the field of multiplier analysis of organisations whose expertise and competence appear somewhat more limited than their willingness to undertake complex economic analysis would suggest." (1974, p.15)

Since the time of that statement by Archer, as demonstrated in this and the previous chapters, a great deal of time and effort has been devoted to refining, adapting and modifying the model and the data collection both to make the research cost effective and the results worthwhile. As a result conducting such studies has not been the same as being

> "adrift upon a sea of unreality without a sound empirical paddle....[with the quality being largely]....out of the control of the researcher" (Hendon, 1983, p25).

This has been so because in undertaking the research into the economic benefits derived from visitor spending the overall research problem has been divided into various sub-components. These were problems of a lesser breadth and complexity. By making this sub-division the work has not become cumbersome and unwieldy. Thus the research has focused on the sub-problems of visitor spending, purchasing by businesses, income to local residents and employment for local residents. In addition, purchasing, income and employment have been further sub-divided in respect of the direct effects and the multiplier effects and the composition of the direct effects.

CHAPTER NINE

THE MAIN LESSONS FROM STUDIES OF THE ECONOMIC BENEFITS OF TOURISM?

INTRODUCTION

The form of multiplier analysis described in this thesis has been developed in response to the need of policy makers for a cost effective method of demonstrating the economic benefits of tourism and of obtaining information which could be used in planning the development of the tourist industry.

The first need, to demonstrate that tourism was not simply a frill on the economy, was founded on the belief that highlighting the economic benefits and, in particular, verifying that public expenditure was well spent was important in decisions on the distribution of public funds.

The second need, to understand the way in which benefits were created and, in particular, whether different types of visitor had similar or different potentials for creating benefits, was founded on the requirement for the cost-effective use of public funds in times of economic stringency.

Thus tourism policy-makers were faced with a need for data which could:

a) make a case for tourism by providing statistics on economic benefits,

b) provide information which would allow for an understanding of the present benefits from tourism, and

c) allow assessments to be made of the possible impacts of future developments.

The previous chapter, and most of the content of Chapters Three to Six inclusive, was concerned with the methodology and the advances in the methodology of proportional multiplier analysis. However, from the point of view of the commissioning bodies the methodology was of secondary importance. While they wanted cost effective 'accurate' results, and therefore the validity of the methodology was of interest to them in general terms, their aim was to commission studies which would increase their understanding of the economic benefits provided by visitor spending. This chapter looks at how the studies on which this thesis is based have increased the understanding of tourism planners and policy makers: the previous chapter having examined the 'accuracy' of the results produced.

The Chapter has four main elements. The first is a brief consideration of national studies of the economic impact of tourism. The second element is the main focus of the chapter which consists of an examination of the main lessons that have been learnt from studies of the economic impact of tourism which have been conducted in Great Britain using proportional multiplier analysis. In particular this element of the chapter highlights the ways in which the understanding of the economic impact of tourism has been increased through the studies on which this thesis is based. The third element is a brief consideration of studies conducted outside Great Britain which have adopted proportional multiplier analysis. The final element is a

consideration of the contribution of the studies on which this thesis is based to the planning for tourism in Great Britain.

THE FINDINGS OF NATIONAL STUDIES

Interest in the economic impact of tourism could be focused on any of three spatio-economic units. The studies could be concerned with the impact at the community, regional or national level. Community studies deal with the impact of tourism on towns and cities and their immediate surrounding areas, for example Winchester (Vaughan, 1984a). Regional studies are of areas which are larger than community studies but not at a national level, for example a County such as Merseyside (Vaughan, 1986a). Finally, national studies are those which consider the impact of tourism on a country as a whole (Richards, 1972).

The type of multiplier with which this thesis is concerned has been used to examine the community and regional impact of tourism and it is the increased understanding about the impact of tourism at these levels with which this chapter is concerned. However, this first section looks at the results of studies which have focused on national economies or tourist island economies.

Some examples of the income multipliers for national areas and tourist islands are given in Table 9.1. They show the income created for nationals from one unit of visitor spending, although the method used to derive this value will have differed. Thus for the United Kingdom for every £1 spent by tourists between £1.68 and £1.78 of income is created. These values for

TABLE 9.1: Income Multipliers for Large Economies and Tourist Islands.

	Income Multiplier
	Per unit of visitor spending
Economies:	
Ireland (1)	1.3
United Kingdom (1)	1.6
Turkey (2)	2.0
Tourist Islands:	
East Caribbean (3)	2.3
Antigua (4)	0.9
Bahamas (5)	0.8
Fiji (6)	0.7
Bermuda (7)	1.0

(1) Richards, 1972.
(2) Liu and Var, 1972.
(3) Zinder, 1969.
(4) Bryden, 1973.
(5) Archer, 1977.
(6) Varley, 1978.
(7) Archer and Wanhill, 1980.

national economies and for tourist islands show that the more self sufficient an economy is the higher the 'multiplier' (indirect and induced impacts) effect of tourist spending.

Before going further it is important to point out that one of the values, that for the East Carribean, is infamous as an example of a misleading multiplier. The values for accommodation and for food and beverages were calculated by dividing the estimated total spending after four rounds by the original spending. The final value of 2.3 was a weighted average of the values for accommodation and food and beverage. From this value it was concluded that for every $1,000 spent by tourists $2,300 would be added to national income. As was pointed out in later work (Levitt and Gulati, 1970, and Bryden and Faber, 1971) this multiplier was a measure of dollars changing hands and not a measure of income.

THE FINDINGS FROM STUDIES PRIOR TO 1976

As detailed in Chapter Three there were four major studies of the economic impact of visitor spending in Great Britain which adopted a proportional multiplier approach and which were published before 1976. These studies were of Anglesey (Archer, 1973a), Cardiganshire (Wheeller and Richards, 1974), Skye (Brownrigg and Greig, 1974) and Greater Tayside (TRRU, 1975). These studies, published prior to the year in which the first of the studies on which this thesis is based was conducted, are the background to the work covered in this thesis.

This section reviews the main finding of these studies. Each of the studies was conducted in a predominantly rural area. Each of the studies involved a visitor survey and a survey of businesses. The Tayside study was the most sophisticated for the reasons given in Chapter Three. To ease exposition of the state of knowledge by 1976, in respect of rural areas alone, the results relating to accommodation used are presented. It should be noted, however, that the study of Cardiganshire also provided analyses by social class and the Tayside study analyses by method of transport.

Visitor Spending

The studies all demonstrate that visitors, classified by the accommodation they used, spent different amounts of money per day. While the amounts differed between the areas (Table 9.2) the major generalisation that can be made is that visitors staying in serviced accommodation (hotels, guest houses and private houses which offered bed and breakfast) spent more than those who stayed in less serviced accommodation or those on a day trip. Although not identical the hierarchy in each of the studies, ranked according to the amount visitors spent, was generally consistent between the study areas.

Income Creation

The proportion of overnight visitor spending which became income to local residents (net of tax and national insurance payments) ranged from 31 per cent to 33 per cent (expressed as income multiplier coefficients, in Table 9.3, these are 0.31 per £1 spent by visitors to 0.33).

These are aggregate income coefficients. The studies,

TABLE 9.2: Visitor Spending in Studies Published Before 1976.

Type of Visitor by Accommodation Used	Amount Spent Per Day\Night			
	Anglesey£	Cardiganshire	Skye	Tayside
	£	£	£	£
Hotel	5.68	2.85*	6.74	7.73
Guest House	N/A	N/A	4.52	3.95
Private House (B&B)	3.06	2.51@	3.92	3.55
Touring Caravan	N/A	1.46	2.15	2.22
Static Caravan=	0.86	+	2.22	2.38
Camping	0.96	1.01	2.05	2.02
Rented Accommodation	N/A	1.74	3.00	2.52
Friends and Relatives	N/A	1.14	2.52	2.40
Day Visitor	N/A	0.89	N/A	0.49

£ These are estimates combining average spending with length of stay.

* These categories are subsumed in the spending by hotel-based visitors.

@ This is spending by those staying in Farmhouses.

= This is an underestimate because Archer subtracted costs of rental of caravan before calculating spending.

+ This category is subsumed in the spending by touring caravan visitors.

TABLE 9.3: Composite Income Multipliers for Staying Visitors in Studies Published Before 1976.

Area of Study	Income Per £1 Spent
	£
Anglesey	0.33
Cardiganshire	0.31
Skye	0.32
Tayside	0.32

however, paid particular attention to providing coefficients for different types of visitor, with visitors classified by the accommodation they used. Such coefficients can be presented in two ways. Firstly, the income arising from a given amount of visitor spending. Secondly, the income arising from the actual amount spent by visitors.

In respect of the impact from a given amount of visitor spending (Table 9.4) there was marked similarity between the areas studied in the income multiplier values of the spending by tourists when classified by the accommodation they used. Again, in general, the hierarchy of impact coefficients was the same for each of the areas.

The impact, however, was not solely determined by the rate at which visitor spending was converted into income it also depended on the rate of visitor spending. Inclusion of the actual amount spent meant that, for example, the relative importance of hotels was increased while the relative importance of Bed and Breakfast was reduced (Table 9.5). Overall it was found that the impact of those staying in serviced accommodation was higher than those staying in less serviced accommodation.

The Tayside study extended this basic analysis to quantify the extent of the impact at each of the stages during which the income was created. Thus it can be seen in Table 9.6 that the direct impact was substantially larger than the indirect and induced impacts at the regional level.

In addition the Tayside analysis provided coefficients for the impact at the Scotland level. Not surprisingly as the size of the area under consideration was

TABLE 9.4: Income Generated Per £1 of Visitor Spending in Studies Published Before 1976.

Type of Visitor by Accommodation Used	Amount Spent Per Day\Night			
	Anglesey	Cardiganshire£	Skye	Tayside
	£	£	£	£
Hotel	0.25	0.34*	0.26	0.30
Guest House	N/A	N/A	0.37	0.34
Private House (B&B)	0.58	0.48@	0.37	0.52
Touring Caravan	N/A	0.26	0.26	0.28
Static Caravan=	0.14	+	0.32	0.28
Camping	0.35	0.41	0.26	0.29
Rented Accommodation	N/A	0.32	0.27	0.36
Friends and Relatives	N/A	0.33	0.25	0.30
Day Visitor	N/A	0.32	0.21	0.29

£ Values have been adjusted to conform with presentation in later studies.

* These categories are subsumed in the income by hotel-based visitors.

@ This is income by those staying in Farmhouses.

= This is an underestimate because Archer subtracted costs of rental of caravan before calculating spending.

+ This category is subsumed in the income by touring caravan visitors.

TABLE 9.5: Income Generated per Visitor Day in Studies Published Before 1976.

Type of Visitor by Accommodation Used	Amount of Income Per Visitor Day			
	Anglesey	Cardiganshire	Skye	Tayside
	£	£	£	£
Hotel	1.42	0.97	1.75	2.32
Guest House	N/A	N/A	1.67	1.35
Private House (B&B)	1.77	1.20	1.45	1.83
Touring Caravan	N/A	0.38	0.58	0.62
Static Caravan	0.12	+	0.69	0.68
Camping	0.34	0.41	0.53	0.58
Rented Accommodation	N/A	0.56	0.81	0.89
Friends and Relatives	N/A	0.38	0.63	0.72
Day Visitor	N/A	0.28	0.21	0.14

+ This category is subsumed in the income by touring caravan visitors.

increased so the extent of the impact was increased.

A Further Comment on Income Creation

In Chapter Three it was suggested that the analyses undertaken on behalf of the English Tourist Board by a range of consultants, all of which adopted the methodology developed in initial work by Industrial Market Research Limited, were likely to have been misleading. The information presented in this section can be compared with the results presented in those studies. Thus the Anglesey composite income multiplier was 0.33 and the Skye composite income multiplier was 0.32. As Jackson has commented in respect of the Isle of Wight study (MIL Research, 1981), where the income multiplier was found to be 0.42, "it seems unlikely that the Isle of Wight can provide so much more of the resources demanded by tourists and by the recipients of successive rounds of increased income from within its boundaries" (1986, p32).

Employment Creation

The Tayside study was the only one to incorporate an analysis of employment creation. This analysis was based on unstandardised jobs (all jobs treated as equal) and standardised jobs (jobs converted to all-year full-time equivalents). Table 9.7 presents comparable results for employment as were presented in Table 9.6 for income. The comments made about income are also applicable in respect of employment.

Community Analysis

Each of the studies considered above were at the level of a region, although obviously at a smaller level than a Standard Economic Planning region such as Scotland.

TABLE 9.6: Multiplier Effect on Income at Different Sizes of Economy as Measured in the Tayside Study.

Type of Visitor by Accommodation Used	Regional Impact				Scotland
	Direct	Indirect	Induced	Total	Total
	Impact Per £1 Spent by Visitors				
Hotel	0.19	0.05	0.05	0.30	0.45
Guest House	0.22	0.06	0.07	0.34	0.47
Private House (B&B)	0.37	0.05	0.10	0.52	0.66
Static Caravan	0.20	0.03	0.05	0.28	0.51
Friends and Relatives	0.21	0.03	0.06	0.30	0.42
Day Visitor	0.20	0.04	0.06	0.29	0.45

TABLE 9.7: Multiplier Effect on Jobs at Different Sizes of Economy as Measured in the Tayside Study.

Type of Visitor by Accommodation Used	Regional Impact				Scotland
	Direct	Indirect	Induced	Total	Total
	Jobs* per £1,000 of Visitor Spending				
Hotel	0.29	0.03	0.04	0.36	0.43
Guest House	0.43	0.04	0.04	0.52	0.55
Private House (B&B)	0.67	0.37	0.07	0.77	0.83
Static Caravan	0.26	0.02	0.04	0.31	0.37
Friends and Relatives	0.30	0.02	0.04	0.36	0.42
Day Visitor	0.35	0.03	0.04	0.42	0.48

* Unstandardised jobs.

The Tayside study, however, also undertook an analysis at the community level. Some of the results of this, in respect of income and employment coefficients, are presented in Table 9.8.

THE LESSONS FROM VISITOR BASED ANALYSES OF EDINBURGH IN 1976

The Edinburgh study, conducted in 1976, was the first study to examine the impact of tourism in an urban rather than a rural area. As the framework of the methodology of the Tayside study was adopted, for the reasons outlined in an earlier chapter, it should not be surprising that the results presented in this section look similar to those presented in the previous section. However, the similarity in presentation should not be considered as pure repetition. Even though the tables, and many of the conclusions that are drawn, are similar the numbers/coefficients are different. While there were advances in the methodology, and in particular its application, as indicated in earlier chapters, the main advance with this study was the context rather than the development of the broad framework of the study. Thus it is the numbers/coefficients which are important as they reflect the implications of the move from a rural environment to an urban environment.

Visitor Spending

The data provided by the survey of visitor spending were analysed on the basis of sub-dividing tourists into different types: by accommodation used (Table 9.10), by transport used (Table 9.9), by area of origin (Table 9.9) and by length of stay (Table 9.9): the last

TABLE 9.8: Tayside Community Analysis: Income Coefficients (Per £1 Spent by Overnight Visitors) and Employment Coefficients (Per £1,000 Spent by Visitors).

Type of Community	Type of Coefficient		
	Income	Standardised Employment	Unstandardised Employment
	Income/Job Coefficient		
Major Nodal Town	0.274	0.159	0.358
Highland Centre	0.245	0.157	0.341
Seaside Town	0.226	0.139	0.322
Special Activity Centres	0.227	0.165	0.331
Rural Areas	0.185	0.121	0.276
Tayside Region	0.262	0.172	0.379

TABLE 9.9: Spending by Origin, Type of Transport and Length of Stay of Visitors to Edinburgh.

Type of Visitor by Origin, Transport and Length of Stay	Type of Visitor	
	Staying Visitor	Day Visitor
	£	£
Origin:		
Scotland	4.32	2.65
Rest of U.K.	4.85	3.57
W. Europe	7.08	4.82
N. America	12.46	10.00
Elsewhere	9.83	7.81
Average	6.86	4.00
Transport:		
Car	5.82	3.65
Train	7.42	7.14
Bus	6.50	8.83
Private Bus	13.25	N/A
Air	11.00	5.53
Average	6.86	4.00
Length of Stay:		
0 Nights	N/A	4.00
1-3 Nights	9.71	N/A
4-6 Nights	7.08	N/A
7+ Nights	4.80	N/A
Average	6.65	N/A

two not having been analysed in the earlier studies. Although in a different setting the general conclusions arrived at from the earlier study still held.

When, for example, the average amount spent per day by visitors was analysed in respect of the accommodation used by visitors (Table 9.10) it was found that holiday visitors using service-intensive accommodation had a higher average daily expenditure than either those using less service-intensive accommodation or those on a day trip. In addition, within these broad categories there were further differences with, for example, hotel-based visitors spending almost double the amount spent by guest house-based visitors.

The rate of spending is not the only consideration in a study of the economic impact of tourism. The pattern of spending is also an important consideration. When the data on visitor spending in Edinburgh were analysed, it was found that the pattern of spending differed according to the type of visitor. Thus, when classified by the type of accommodation used, three results were found (Table 9.10).

Firstly, the proportion of the daily budget spent on accommodation by those using service-intensive accommodation, in all cases above 38 per cent, was substantially higher than for those using other types of accommodation.

Secondly, while accommodation accounted for a higher proportion of the spending by visitors using service-intensive accommodation they nevertheless spent more in businesses outside the accommodation sector than those using less service-intensive accommodation.

TABLE 9.10: Average Daily Expenditure within Edinburgh by Overnight Visitors.

Type of Tourist by Accomm-odation Used	Category of Spending						
	Accomm-odation	Retail	Souv-enir	Cafe/ Pub	Trans-port	Other	Total
	Average amount spent per day per person (£)						
Hotel	6.49	2.27	1.50	2.03	0.40	0.41	13.12
Guesthouse	3.09	1.55	0.55	1.59	0.28	0.36	7.42
Bed & Breakfast	2.71	1.28	0.86	1.35	0.55	0.29	7.04
Tent	0.43	0.84	0.75	0.64	0.42	0.16	3.24
Caravan	0.48	1.62	0.53	0.62	0.28	0.10	3.62
Friends & Relatives	0.05	1.55	0.70	0.70	0.35	0.09	3.42
Halls of Residence	4.09	0.71	0.70	0.74	0.14	0.20	6.59
Others	1.23	0.73	0.18	0.52	0.29	0.27	3.22
Staying Visitors (Weighted Average)	2.59	1.60	0.84	1.21	0.37	0.26	6.86

Thirdly, while the accommodation sector was most readily identified as being the recipient of visitor spending businesses outside the accommodation sector received 62 per cent of all expenditure by staying visitors.

Income Creation from Visitor Spending

Income creation was estimated by combining business-based income coefficients with the average spending of visitors in different types of business to give the local income coefficient of each business type its relative weight.

The rate of income creation can be expressed in two ways: as a proportion of a consistent unit (per £1, per £100 and so on) or per visitor day. Regardless of which was adopted the rate of income creation in the City varied (Table 9.11). Again many of the broad conclusions are the same as for the earlier studies, although the numbers/coefficients were different. Thus. for example, the largest contribution to local income was made by the businesses in which visitors spent their money.

Finally, the analysis was adapted to reveal the increase in local income as the geographical area was extended. The benefit to areas outside the City of Edinburgh is illustrated in Table 9.12 where the income coefficients at the City, the Lothian Region and Scotland levels are shown. The steps indicate the extra payments of wages, rent or profit which were included as the size of the 'local' area was increased.

Employment Creation from Visitor Spending

A similar relationship to that between income and

Table 9.11: Local Income Coefficients of Visitor Spending.

Type of Tourist by Accommodation Used	Stage of Impact			
	Direct	Indirect	Induced	Total
	Income per £1 of visitor spending			
Hotel	.205	.04	.043	.293
Guesthouse	.210	.071	.049	.330
Bed & Breakfast	.143	.077	.038	.258
Tent	.177	.031	.036	.244
Caravan	.161	.028	.033	.222
Friends/Relatives	.143	.031	.030	.204
Halls of Residence	.279	.032	.054	.365
Other*	.233	.031	.046	.310
Day Trips	.144	.029	.030	.203
Staying Visitors (Weighted Average)	.191	.050	.042	.282
All Visitors (Weighted Average	.189	.049	.041	.279

* Accommodation component was estimated.

TABLE 9.12: Income Multipliers at City, Region and Scotland Levels.

Type of Tourist by Accommodation Used	City	Region	Scotland
	Income per £1 of visitor spending		
Hotel	.293	.296	.339
Guesthouse	.330	.332	.370
Bed & Breakfast	.258	.261	.302
Tent	.244	.247	.304
Caravan	.222	.225	.274
Friends & Relatives	.204	.206	.257
Halls of Residence	.365	.382	.420
Other*	.310	.321	.361
Day Trips	.203	.206	.260
Staying Visitors (Weighted Average)	.282	.286	.329
All Visitors (Weighted Average)	.279	.282	.326

* Accommodation component was estimated.

turnover was found between turnover and employment. In the study two coefficients of the rate of employment creation were estimated: coefficients based on standardised employment and coefficients based on unstandardised employment. Standardised employment coefficients compensate for different lengths of service and hours worked by converting part-time and seasonal employment into full-time man-year equivalents while unstandardised coefficients do not. This section follows the published report in only considering standardised employment coefficients.

Table 9.13 reveals that the spending of different types of visitor created employment at different rates. The employment coefficients presented show that a given amount of spending by visitors using service-intensive accommodation created a greater amount of standardised employment than the same amount of spending by visitors using less service-intensive accommodation. Thus, for example, for every £100,000 spent by visitors accommodated in halls of residence 33 full-time all-year full-time job equivalents were created, whereas for every £100,000 spent by visitors accommodated in caravans 11 full-time all-year job equivalents were created.

The components of the total employment multiplier for the City can be identified separately and, as Table 9.14 shows, the direct component was the largest. The direct component consisted of the employment created in the businesses in which visitors spent their money.

Finally, Table 9.15 presents the results of the tiered-region analysis with the employment coefficients for the City, the Lothian Region and Scotland being detailed.

TABLE 9.13: Total Employment Multiplier at the City Level (Per £1,000 of Visitor Expenditure).

Type of Tourist by the Accommodation Used					
Serviced Accommodation		Unserviced Accommodation		Day Trip	
	Jobs per £1,000 spent by visitors				
Hotel	0.187	Tent	0.121	Day Trip	0.126
Guest House	0.208	Caravan	0.113	Day Trip (Lothians)	0.126
Bed & Breakfast	0.284	Friends/ Relatives	0.126		
Halls of Residence	0.331	Others*	0.250		
Weighted Average	0.210	Weighted Average	0.136	Weighted Average	0.126

* Accommodation component was estimated.

TABLE 9.14: Components of the Employment Coefficients at the City Level (Per £1,000 of Visitor Expenditure).

Type of Tourist by Accommodation Used	Stage of Impact			
	Direct	Indirect	Induced	Total
	Jobs per £1,000 of visitor spending			
Serviced Accommodation	0.157	0.025	0.029	0.212
Unserviced Accommodation	0.101	0.013	0.022	0.136
Day Trip	0.093	0.013	0.020	0.126
Weighted Average	0.142	0.022	0.027	0.192

TABLE 9.15: Tiered Region Analysis of Edinburgh Employment.

Type of Tourist by Accommodation Used	City	Region	Scotland
	Jobs per £1,000 of Visitor Spending		
Hotel	.187	.188	.205
Guest House	.208	.209	.224
Bed & Breakfast	.284	.285	.302
Tent	.121	.123	.147
Caravan	.113	.114	.134
Friends and Relatives	.126	.127	.148
Hall of Residence	.331	.339	.354
Day Trip	.126	.127	.214
Staying Visitors (Weighted Average)	.195	.196	.319
All Visitors (Weighted Average)	.192	.193	.211

An Evaluation of the Contribution of the Study to the Understanding of the Economic Benefits of Tourism

The results produced by this study fulfilled two purposes. Firstly, they were an input into the Structure Plan which was being prepared at that time by Lothian Region Council. Secondly, for the Scottish Tourist Board the study redressed the balance and filled the gap left by the Tayside Study by examining the impact of tourism on a major urban area. The emphasis of the analysis was on quantifying the different rates of impact of different types of tourist. The analysis, therefore, reflected the concern at that time with the 'multiplier' effect of tourism and, although not covered in this section in respect of estimates of total impacts (covered later in this chapter), the concern with demonstrating that tourism was 'worthwhile' in that it was comparable in importance to other more commonly recognised economic activities. Thus there was little or no concern about the qualitative aspects of the impact of visitor spending. This was to come at a later date.

COMPARISONS OF TOURISM AND OTHER ECONOMIC ACTIVITIES

Through studies such as that conducted on Greater Tayside and Edinburgh the broad case that tourism was worthwhile was presented and guidance was given on which types of visitor provided the highest relative impact. The case was broad in that it was simply based on demonstrating that tourism had a substantial impact on host economies.

However, there was still the question of how tourism compared with other economic activities. There was

criticism (Brownrigg and Greig, 1976) that tourism was subject to greater leakages than other industries and that the benefits of visitor spending were not 'real'. Thus it was being suggested, but with no base for comparison in that only analyses of the impacts of tourism were available in a proportional rather than incremental form, that tourism was not as beneficial as other economic activities.

As part of the study of "The Economy of Rural Communities in the National Parks of England and Wales" (TRRU, 1981) the impact of different types of business on local communities was assessed for the first time. To make this assessment the focus of the analysis conducted for, and the results presented in, the national park study changed significantly. Although results based on visitor type were still produced there were in addition analyses based on quantifying the different contributions of both tourism-related and non-tourism enterprises. In addition, a new analysis of the purchasing by businesses was also developed in order to have a more 'accurate' measure of leakages, or more accurately, the level of purchasing by businesses in the local economy within which they are set.

The analyses undertaken for the study of national parks provided multiplier coefficients, for a range of businesses in terms of local purchases of goods and services, income to local residents and local employment. There were two sizes of area covered. The first related to the park area alone while the second included a zone 15 miles from the boundary of the park.

Purchases by Businesses

Statistics presented in Table 9.16 demonstrate the relationship between a direct purchase associated with

TABLE 9.16: Purchases by Businesses: A Measure of the Economic Interdependence, 1979.

Economic Activity	National Park Only		Extended Park Area	
	Type I A	Type II B	Type I C	Type II D
	Purchase ratios			
Agriculture:				
Dairying	1.05	1.13	1.06	1.28
Livestock	1.05	1.22	1.09	1.62
Mixed Farming	1.05	1.11	1.08	1.26
Manufacturing:				
Large Scale	1.07	1.78	1.08	1.66
Tourism-Related	1.04	1.20	1.13	1.93
Other	1.06	1.17	1.17	1.96
Contractor	1.05	1.17	1.10	1.56
Services:				
Hotel	1.08	1.19	1.15	1.38
Guesthouse	1.06	1.24	1.16	1.42
Bed and Breakfast	1.06	1.88	1.15	1.86
Self-Catering	1.07	1.31	1.18	1.50
Retail	1.07	1.18	1.14	1.33
Restaurant	1.06	1.22	1.14	1.34

various economic activities and the subsequent purchases resulting both from purchases by the suppliers to those activities and from income earned (through the initial or subsequent activities) being re-spent. The values for the tourism-related activities were low, but comparison with the other industries examined does not suggest that they performed substantially better.

The values presented in Table 9.16 provide a picture of the extent of linkages which existed between economic activities in given areas. What they do not provide is any indication of the size of the injection needed to generate incremental increases in purchases. For example, two industries may have similar characteristics in terms of their inter-linkages with the local economy (as expressed by the ratio of total purchases to direct purchases), while exhibiting strongly contrasting abilities in translating absolute levels of economic activity into local purchases by businesses.

Table 9.17 presents purchases by businesses, stimulated as a result of turnover in each economic activity, as a proportion of the original turnover. Thus Table 9.17 demonstrates the rate at which different activities were able to convert their turnover into purchases, both directly and indirectly, within the park and within the extended area around the park. It illustrates, as did Table 9.16, that the size of the leakage from a small area (and limited industrial base) was very large and that the economy of any area (particularly a rural area) is inextricably bound up with the larger regional and national economies for the supply of goods and services.

TABLE 9.17: Purchases by Businesses: Selected Industries.

Economic Activity	National Park Only				Extended Park Area
	Direct A	Indirect B	Induced C	Total D	Total E
	Purchases as a proportion of £1 turnover				
Agriculture:					
Dairying	0.09	0.00	0.01	0.10	0.33
Livestock	0.07	0.00	0.01	0.09	0.26
Mixed Farming	0.20	0.01	0.01	0.22	0.66
Manufacturing:					
Large scale	0.01	0.00	0.01	0.02	0.16
Tourism-related	0.11	0.01	0.02	0.14	0.27
Other	0.03	0.00	0.00	0.04	0.08
Contractor	0.15	0.01	0.02	0.17	0.39
Services:					
Hotel	0.09	0.01	0.01	0.11	0.59
Guesthouse	0.07	0.00	0.01	0.09	0.60
Bed and Breakfast	0.04	0.00	0.03	0.07	0.56
Self-Catering	0.06	0.01	0.01	0.09	0.55
Retail	0.05	0.00	0.01	0.06	0.41
Restaurant	0.06	0.00	0.01	0.08	0.65

Table 9.17, however, provides more information than Table 9.16. It shows that, while small, the direct component alone accounted for most of the purchases by businesses within the park and that the indirect and the induced effects, which were the focus of the previous analysis (Table 9.16), were relatively insignificant in absolute terms. Thus it can be concluded that a proportional analysis as developed in the studies on which this thesis is based is far more relevant and cost-effective than a traditional incremental analysis. This conclusion is explored later in this chapter.

Income to Local Residents

The rate of income creation resulting from tourist spending is another characteristic of the tourist industry which critics have identified as revealing a weak industry on which to base the viability of local communities. As for purchases this criticism was tested. The analyses measured the amount of income resulting from the sale of goods and services by different economic activities and separated out the component parts of such income.

In Table 9.18 the analysis presents local income as a proportion of the turnover of the economic activity under consideration and illustrates the relative size of turnover necessary in order to raise income by a given amount. For example, for every pound of turnover of a building contractor operating in a national park, 35p will be paid out directly in wages, rent and profit within the park, while a further 4p will result, divided equally between the indirect inter-industry effects of purchases and the induced effect of household consumption.

TABLE 9.18: Income from Businesses: Selected Industries.

Economic Activity	National Park Only				Extended Park Area
	Direct A	Indirect B	Induced C	Total D	Total E
	Income as a proportion of £1 turnover				
Agriculture:					
Dairying	0.14	0.01	0.00	0.16	0.20
Livestock	0.24	0.01	0.01	0.26	0.30
Mixed Farming	0.23	0.02	0.01	0.26	0.33
Manufacturing:					
Large scale	0.13	0.00	0.01	0.13	0.20
Tourism-related	0.34	0.01	0.02	0.37	0.40
Other	0.06	0.00	0.00	0.07	0.11
Contractor	0.35	0.02	0.02	0.38	0.42
Services:					
Hotel	0.19	0.02	0.01	0.22	0.36
Guesthouse	0.27	0.01	0.01	0.29	0.42
Bed and Breakfast	0.66	0.00	0.03	0.70	0.81
Self-Catering	0.29	0.01	0.01	0.32	0.43
Retail	0.11	0.01	0.01	0.13	0.22
Restaurant	0.19	0.01	0.01	0.21	0.37

The direct effect was the largest component in the total impact, usually accounting for between 80 and 90 per cent of the incomes accruing within the park. However, when the analysis was extended to include the area within 15 miles of the park boundary (column E), the direct effect became less significant, although still accounting in all cases for at least 50 per cent of the total.

The analysis of income multipliers supports that of purchases in illustrating that tourist-related industry is not intrinsically weak relative to other industries but merely reflects, as all industries do, the structure of the local economy. In fact, the income analysis suggests that many tourist-related industries perform markedly better than the other activities surveyed, in terms both of the ratio of total income created to direct income created (Table 9.19) and of income per unit of turnover (Table 9.18). Accommodation-related activities in particular provide relatively efficient means of converting turnover into income.

Employment for Local Residents

The repercussions of a change in turnover on income and output ultimately find expression in an increased workforce. However, for various reasons, measurement of the impact is more difficult than that relating to either purchases or income. Firstly, it is difficult to derive a simple relationship between economic output and jobs, because labour can be under-used and any increase in demand can be absorbed through a more efficient use of existing labour. Secondly, jobs (unlike income) do not accrue in a standard unit, so that there are inevitable problems of reconciling part-time and seasonal employment with full-time jobs.

TABLE 9.19: The Ratio of Direct Income to Total Income: Selected Industries.

Economic Activity	National Park Only	Extended Park Area
	Type II A	Type II B
	Income ratios	
Agriculture:		
Dairying	1.10	1.37
Livestock	1.07	1.22
Mixed farming	1.14	1.46
Manufacturing:		
Large scale	1.06	1.16
Tourism-related	1.08	1.13
Other	1.12	1.15
Contractor	1.09	1.18
Services:		
Hotel	1.16	1.75
Guesthouse	1.08	1.55
Bed and Breakfast	1.05	1.22
Self-Catering	1.09	1.46
Retail	1.14	1.95
Restaurant	1.10	1.82

Tables 9.20 and 9.21 present two ways of analysing employment: an unstandardised analysis where all jobs are treated as equal and a standardised analysis which converts jobs into all-year full-time equivalents. The total figures illustrate, with the caveats outlined above, the relationship between employment and turnover (jobs per £10,000 of turnover). The coefficients are invariably lower in the analysis of standardised than in that of unstandardised data owing to the conversion of part-time and seasonal employment into full-time all-year equivalents; the smaller the change between the two forms of coefficients the greater the number of full-time all-year jobs present in the industry.

The employment coefficients lead to similar conclusions to those previously outlined for purchases and income. The direct effect was the largest and the size of the multiplier effect increased as the size of area, and the possibility for exchange, increased.

In the analysis of unstandardised data (Table 9.20) the service industries (accommodation in particular) displayed a large number of jobs per unit of turnover. However, the range over which the coefficients extended narrowed when the jobs created were standardised (Table 9.21), largely reflecting the reduction in the coefficients for guest houses and for bed and breakfast accommodation. Thus, while tourist-related activities can be efficient in creating employment, the contrast between unstandardised and standardised coefficients suggests an employment structure dominated by part-time and short-term jobs.

TABLE 9.20: The Number of Unstandardised Jobs per £10,000 of Turnover. Selected Industries.

Economic Activity	National Park Only				Extended Park Area
	Direct A	Indirect B	Induced C	Total D	Total E
	Jobs per £10,000 of turnover				
Agriculture:					
Dairying	0.77	0.03	0.13	0.93	1.12
Livestock	0.75	0.04	0.21	1.00	1.18
Mixed farming	0.87	0.09	0.21	1.17	1.53
Manufacturing:					
Large scale	0.76	0.01	0.10	0.87	1.03
Tourism-related	1.36	0.05	0.29	1.69	1.90
Other	0.18	0.02	0.06	0.25	0.45
Contractor	1.09	0.06	0.29	1.44	1.71
Services:					
Hotel	1.59	0.10	0.16	1.86	2.76
Guesthouse	7.23	0.06	0.22	7.50	8.24
Bed and Breakfast	7.22	0.03	0.52	7.78	8.49
Self-Catering	2.93	0.06	0.24	3.23	3.88
Retail	0.80	0.05	0.10	0.95	1.45
Restaurant	2.71	0.06	0.16	2.93	4.14

TABLE 9.21: The Number of Standardised Jobs per £10,000 of Turnover: Selected Industries.

Economic Activity	National Park Only				Extended Park Area
	Direct A	Indirect B	Induced C	Total D	Total E
	Jobs per £10,000 of turnover				
Agriculture:					
Dairying	0.49	0.02	0.07	0.59	0.75
Livestock	0.60	0.03	0.12	0.76	0.90
Mixed farming	0.67	0.07	0.12	0.86	1.16
Manufacturing:					
Large scale	0.72	0.00	0.06	0.78	0.91
Tourism-related	1.12	0.04	0.16	1.32	1.49
Other	0.17	0.01	0.03	0.22	0.39
Contractor	1.03	0.05	0.17	1.25	1.48
Services:					
Hotel	0.70	0.08	0.09	0.87	1.51
Guesthouse	1.68	0.04	0.12	1.84	2.43
Bed and Breakfast	0.79	0.02	0.30	1.11	1.56
Self-Catering	0.87	0.05	0.14	1.06	1.68
Retail	0.50	0.04	0.05	0.59	0.99
Restaurant	0.83	0.04	0.09	0.96	1.75

An Evaluation of Contribution of the Study to the Understanding of the Economic Benefits of Tourism

This study has been extremely important in laying to rest a number of myths about the reality of the economic benefits provided by tourism. Before this study many statements were made which had no basis in that the statements implied a comparison between tourism and other economic activities. However, no true comparison could have been possible because no comparable data for the other economic activities existed. Thus the study moved the debate away from subjective assessments to assessment based on objectively collected data.

COMPARISONS OF THE EFFECT OF THE STRUCTURE OF THE LOCAL ECONOMY

The main conclusion that can be drawn from the comparison of tourist-related businesses and other economic activities is that the tourist industry is not, as some claim, an industry that is intrinsically weaker than other industries as an economic stimulus but merely reflects, as all industries do, the structure of the economy concerned. Thus in a small relatively under-developed area leakages will usually be high regardless of the industry concerned. However, as the size and diversity of the area increases so does the potential impact.

The analyses undertaken of "Tourism in the Economy of Scotland" (Vaughan et al, 1987) examined whether businesses in different types of economy display different levels and patterns of purchases, income and employment. This section therefore presents details of

business located in 3 types of economy: those associated with the North of Scotland, the Central Lowlands of Scotland and the South of Scotland. (The tables referred to in this section present the total effect within an average local authority region, for example Lothian Region, and within Scotland with the Scotland figure containing the regional figure).

Purchases by Businesses

In Table 9.22 the more diverse structure, and therefore the opportunity for making purchases, of the Central Lowlands is very marked with the level of purchases within an average region, per £100 of turnover, being about double that in the other two types of area. However, the North and South narrow the gap and generate more purchases at the Scotland level. Thus it would appear that the Central Lowlands are more self-sufficient.

The impression conveyed by Table 9.22 is confirmed by Table 9.23. This table presents total purchases within the region as a ratio of direct purchases. At the region level for the Central Lowlands the total purchases were approximately double the direct purchases in all cases except for garages. In the other two areas the values for the indirect and induced purchases added on about one-fifth of the direct purchases.

Further evidence on the higher level of inter-dependence in the Central Lowlands is provided by Table 9.24. This table presents firstly, direct purchases from within Scotland as a ratio of direct purchases from within the average region (with the Scotland figure excluding the regional figure) and, secondly, total purchases from within Scotland as a ratio of

TABLE 9.22: Purchases per £100 of Turnover for Selected Business Types in Three Average Regions within Scotland.

Type of Business	Purchases Within Average Region			Purchases Within Scotland		
	North	Central	South	North	Central	South
	Purchases per £100 of turnover					
Hotel	30	65	25	111	93	101
Guest House	45	75	52	109	108	122
Caravan/ Campsite	45	72	36	106	96	87
Food & Drink	43	108	28	120	131	118
Retail	14	42	8	84	72	66
Garage	11	74	4	51	84	16
All Accommodation	37	67	34	110	96	105
All Non Accommodation	22	61	13	93	89	77

* Includes estimate for accommodation components of Private House (B&B), Self-Catering and Other Types (Halls of Residence, Youth Hostel etc.).

TABLE 9.23: Total Purchases Within An Average Region as a Ratio of Direct Purchases Within an Average Region.

Type of Business	Average Region		
	North	Central	South
	Ratio of Direct Purchases to Total Purchases		
Hotel	1.26	2.31	1.26
Guest House	1.25	2.10	1.20
Caravan/Campsite	1.45	2.16	1.30
Food & Drink	1.22	2.21	1.27
Retail	1.29	2.29	1.39
Garage	1.09	1.03	1.14
All Accommodation*	1.26	2.25	1.24
All Non-Accommodation	1.24	2.10	1.31

* Includes estimate for accommodation component of Private House (B&B), Self-Catering and Other Types (Halls of Residence, Youth Hostel, etc.).

TABLE 9.24: Further Indicators of Interdependence within Scotland as Measured by Purchases.

Type of Business	Ratio of Direct Purchases in Region to Direct Purchases in Rest of Scotland			Ratio of Direct Purchases in Region to Total Purchases in Scotland		
	North	Central	South	North	Central	South
	Purchase ratios					
Accommodation:						
Hotel	0.43	0.31	1.16	4.02	2.86	4.49
Guest House	0.30	0.33	0.33	2.46	2.60	2.46
Caravan/ Campsite	0.30	0.19	0.30	2.46	2.53	2.63
Non-Accommodation:						
Food & Drink	0.44	0.06	1.22	3.05	2.39	4.78
Retail	2.27	0.60	3.65	7.20	3.64	10.23
Garage	3.63	0.12	2.85	4.90	1.14	4.12
Accommodation*	0.60	0.32	0.68	3.19	2.79	3.34
Non-Accommodation	1.23	0.29	2.17	4.66	2.74	6.82
Total	0.93	0.30	1.34	3.96	2.76	4.86

* Includes estimates for the accommodation component of Private House (B&B), Self-Catering and Other Types (Halls of Residence, Youth Hostels etc.).

direct purchases from within the average region. In the first case the values for the Central Lowlands are substantially below those for the other two areas and conversely in the second case the values for the North and South are substantially above those for the Central Lowlands.

Income to Local Residents

The type of area within which tourist expenditure takes place also exerts an influence on the level of income created.

In Table 9.25 the influence of the economy and of the pattern of visits is quite marked at the regional level with the Central Lowlands extracting more wages per £100 of turnover in the accommodation and non-accommodation sector. For profit, however, the Central Lowlands did not do as well with either, or both, the North and South extracting more per £100 of turnover. However, in total an average region in the Central Lowland obtained more income per £100 of turnover than regions in the North and South of Scotland.

The pattern of income creation in Scotland is not so clear because the influence of purchases outside the region, but within Scotland, becomes more prominent and raises the levels of income created as a result of £100 of turnover in the North and South of Scotland.

As for purchases it is possible to derive ratios of direct income to total income and these are presented in Table 9.26. The first set of ratios indicate the relationship between direct income within the average region and total income within the average region. The second set indicate the relationship between direct income at the average region level and the total income

TABLE 9.25: Income Per £100 of Turnover for Selected Business Types in Three Average Regions Within Scotland.

Type of Business/ Income	Income Within Region			Income Within Scotland		
	North	Central	South	North	Central	South
	Income per £100 of turnover					
Wages:						
Hotel	20	26	16	33	33	28
Guest House	11	16	16	25	26	31
Caravan/ Campsite	21	23	17	34	31	27
Food & Drink	14	31	13	26	36	26
Retail	9	14	9	18	19	18
Garage	4	2	2	5	3	3
All Accomm-odation*	15	23	16	28	30	28
All Non-Accommodation	10	18	10	20	23	19
Profit:						
Hotel	7	8	9	8	10	10
Guest House	27	24	11	28	26	12
Caravan/ Campsite	27	9	11	28	14	12
Food & Drink	10	8	9	11	9	10
Retail	7	4	5	8	5	6
Garage	2	2	1	2	3	1
All Accomm-odation*	17	12	10	18	14	12
All Non-Accommodation	7	5	6	9	6	7
Total Income:						
Hotel	27	34	25	41	43	38
Guest House	38	41	28	53	52	43
Caravan/ Campsite	48	32	28	62	45	39
Food & Drink	24	39	22	38	46	37
Retail	15	18	15	26	24	24
Garage	6	5	4	7	5	4
All Accomm-odation*	32	36	26	47	45	40
All Non-Accommodation	18	23	16	29	29	26

* Includes estimates for accommodation components of Private Houses (B&B), Self-Catering and Other Types (Halls of Residence, Youth Hostel etc.).

TABLE 9.26: Rates of Direct Income+ to Total Income+.

Type of Business	Income Within Region			Income Within Scotland		
	North	Central	South	North	Central	South
	Income Ratio					
Hotel	1.24	1.56	1.27	2.07	1.89	1.96
Guest House	1.34	1.55	1.60	1.87	1.98	2.52
Caravan/ Campsite	1.74	1.66	1.46	2.25	1.92	2.03
Food & Drink	1.44	1.84	1.38	2.22	2.14	2.34
Retail	1.26	1.72	1.22	2.11	2.27	1.97
Garage	1.26	1.26	1.25	1.49	1.42	1.53
Accomm-odation*	1.36	1.56	1.38	1.99	1.92	2.12
Non-Accomm-odation	1.33	1.77	1.28	2.14	2.20	2.09
Total	1.35	1.68	1.32	2.06	2.07	2.10

* Includes estimates for the accommodation component of Private House (B&B), Self-Catering and Other Types (Halls of Residence, Youth Hostel, etc.).

\+ Excludes rent.

at the Scotland level.

These ratios reinforce the conclusions reached above. Generally, at the regional level, the ratios are higher for the Central Lowlands whereas at the Scotland level the ratios for the North and the South are comparable with those for the Central Lowlands.

Employment for Local Residents

The area within which tourist expenditure takes place also affects the level and type of employment created.

Table 9.27 illustrates that at the total employment level there was no consistent pattern with, as was the case for income and purchases for example, businesses in the Central Lowlands producing more employment at a regional level than businesses in the other two areas. However, businesses in the South and the North created more jobs at the Scotland level, per £1 million of turnover, due to their requirement to import goods and services from the rest of Scotland.

Table 9.28 and 9.29 provide a clue as to why the Central Lowlands do not provide a higher number of jobs per £1 million of turnover. The level of employment in total was determined by the level of direct employment (the pattern in Table 9.29 following that in Table 9.28) and the level of employment in the direct sectors of the Central Lowlands was lower than in the other two areas. This was because employment was generally less seasonal in nature in the Central Lowlands in those types of businesses where the total employment was smaller.

Table 9.29 presents two sets of ratios for job creation. The first set indicate the relationship

TABLE 9.27: Total Employment per £1 Million of Turnover.

Type of Business	Employment Within Region			Employment Within Scotland		
	North	Central	South	North	Central	South
	Employment per £1m of turnover					
Hotel	145	159	157	189	181	199
Guest House	297	272	303	341	303	349
Caravan/ Campsite	521	166	163	562	191	196
Food & Drink	162	152	161	202	170	207
Retail	61	77	73	94	94	101
Garage	19	19	17	22	20	20
Accomm-odation*	210	176	176	252	200	214
Non-Accomm-odation	89	95	93	122	111	124
Total	131	121	118	167	140	151

* Includes estimates for the accommodation component of Private House (B&B), Self-Catering and Other Types (Halls of Residence, Youth Hostel, etc.).

TABLE 9.28: Direct Employment per £1 Million of Turnover.

Area/ Type of Employee	Hotel	Guest House	Caravan/ Campsite	Food & Drink	Retail	Garage
	Direct employment per £1m of turnover					
North:						
Owners/ Family	12	122	0	27	12	2
Employees	88	34	0	105	33	11
Seasonal	20	105	451	4	5	0
Central:						
Owners/ Family	13	142	15	8	9	3
Employees	100	52	32	77	40	11
Seasonal	3	26	74	8	0	1
South:						
Owners/ Family	25	118	17	67	15	4
Employees	98	59	40	66	40	9
Seasonal	16	88	78	8	8	2

TABLE 9.29: Rates of Direct Employment to Total Employment.

Type of Business	Employment Within Region			Employment Within Scotland		
	North	Central	South	North	Central	South
	Employment ratios					
Hotel	1.20	1.37	1.13	1.57	1.56	1.43
Guest House	1.36	1.24	1.15	1.30	1.38	1.32
Caravan/ Campsite	1.16	1.36	1.21	1.25	1.57	1.46
Food & Drink	1.19	1.63	1.14	1.49	1.83	1.47
Retail	1.23	1.51	1.15	1.87	1.84	1.60
Garage	1.34	1.26	1.19	1.57	1.36	1.35
Accomm-odation*	1.16	1.32	1.15	1.40	1.50	1.39
Non-Accomm-odation	1.21	1.56	1.15	1.65	1.83	1.53
Total	1.18	1.44	1.15	1.51	1.66	1.47

* Includes estimates for accommodation component of Private House (B&B), Self-Catering and Other Types (Halls of Residence, Youth Hostel, etc.).

between the number of direct jobs within the average local authority region and the number of total jobs within the average region. The second set present the relationship between the number of direct jobs within the average region and the number of total jobs within Scotland. The results conform to the earlier statistics relating to purchases and income. The ratio of direct to total employment within an average region within the Central Lowlands was consistently above that in the other two areas. However, at the Scotland level the ratios for the three areas became very similar.

An Evaluation of the Contribution of the Study to the Understanding of the Economic Benefits of Tourism

This study significantly advanced the understanding of tourism within Scotland both in respect of the constituents of the tourism industry and of tourism as a whole in Scotland.

Firstly, in respect of understanding the nature of tourist enterprises, the study provided information about the nature of tourist-related activities in terms of their ability to generate and sustain purchases, income and jobs within an economy. In particular it provided insights into the influence of internal structure of the economy within which the economic activities are set on the level and types of job supported by tourism. Thus it emphasised the need to take a local perspective in order to understand the role that tourism plays within an economy.

Secondly, although the results are presented later in the chapter, it is important to note that the study improved the statistical base about the scale of tourist-related economic activity in Scotland as a whole and within the regions of Scotland. While

estimates had been compiled using the results of the Tayside study as the base for the analysis these could only be considered as extremely tentative estimates. As shown in this study of Scotland there were significant differences in the results for the three broad areas. The importance of this is demonstrated by the fact that the Central Lowlands accounted for 57 per cent of visitor spending. The Tayside results could hardly be considered representative of the Central Lowlands, an area which contains Glasgow and Edinburgh.

DIS-AGGREGATION OF THE DIRECT IMPACT

Between 1982 and 1985, inclusive, three separate studies were commissioned of major tourist destinations in Southern England. These studies of the economic benefits of visitor spending in Brighton and Hove (Vaughan, 1983), Winchester (Vaughan, 1984a) and Bournemouth and South East Dorset (Vaughan, 1985) had much in common with the studies already covered, that is they provided estimates of visitor spending and the effect that had on local incomes and the local workforce both in terms of the rate of impact and the scale of the overall impact. However, the major difference, which will form the focus of this section, was the increased attention paid to the nature of the direct impact. This difference came about because of the increased interest in who benefits as well as how much tourism was worth.

To illustrate the results produced in these studies the analysis conducted for Brighton and Hove is presented. The rate of income creation was measured both in terms of the type of business in which tourists spend their money and in terms of the type of visitor who spent the

money. The analysis detailed in this section presents the results in respect of business type.

The Nature of Direct Income

Table 9.30 provides details of the proportions in which different types of business created income directly in in Brighton and Hove. These businesses paid out income to employees for their labour and to owners both for their labour and for their investment of capital. Thus income accrued to different people and was paid out in different forms: wages/salaries, drawings by owners, capital retained within the business and rent. These will have different impacts on the local economy. Some of the income (wages, salaries and drawings) will be used to buy household goods and services while the remainder (profit retained within the business and rent) is more likely to be used in the future in relation to investment on buildings, equipment and so on.

Importantly however in the context of the concern with who benefits from tourism, as the statistics for Brighton and Hove demonstrate, the income derived from tourism was not confined to the owners of businesses but were spread throughout the community.

The Nature of Direct Jobs

There were marked variations between the businesses in the composition of their workforces. Different businesses had different workforces (Table 9.31). Thus the level of seasonal employment varied between businesses as did the reliance placed on working proprietors to form a substantial part of the workforce. However the study confirmed, as the other studies have done, that a large part of the tourism

TABLE 9.30: The Income Provided to Residents of Brighton and Hove and Adjacent Areas by Selected Businesses.

Type of Business	Type of Income (Net of Tax)			
	Wages and Salaries	Owners Disposable	Surplus Earnings	Total
	Proportion of Income (%)			
Hotel (50 or more rooms)	90	3	7	100
Hotel (less than 50 rooms)/Guest House	42	31	27	100
Self-Catering (Rented)	10	52	38	100
Restaurant/Pub	76	17	7	100
Independent Retail	28	35	37	100

TABLE 9.31: The Composition of the Workforce* in Selected Businesses in Brighton and Hove.

Type of Business by Type of Worker	Type of Worker			
	Working Proprietor	All Year Employee	Seasonal Employee	Total
	Proportion of Workforce (%)			
Hotel (50 or more rooms):				
Full-time	1	57	3	60
Part-time	1	38	1	40
Total	1	95	4	100
Hotel (less than 50 rooms)/Guest House:				
Full-time	29	28	0	57
Part-time	3	20	20	43
Total	32	48	20	100
Self-Catering (Rented):				
Full-time	17	0	0	17
Part-time	25	42	17	83
Total	42	42	17	100
Restaurant/Pub:				
Full-time	3	51	10	65
Part-time	2	28	4	35
Total	6	80	15	100
Independent Retail:				
Full-time	23	15	0	38
Part-time	10	52	0	63
Total	33	67	0	100

* Includes workers who commute from outside Brighton and Hove.

workforce is female and or part-time.

The structure of the tourist workforce, as illustrated for Brighton and Hove, has led to criticism of the tourist industry not providing "real" jobs. However, such criticism, based on the statistics, should be treated with caution. Firstly, it overlooks that a large part of the workforce has the opposite characteristics. Secondly, it overlooks that the very characteristics that draw the criticism may mean that tourism fits in well with other aspects of the economy and peoples lives. Lastly, it overlooks the increase in employment opportunities available for the community at large because of tourism.

An Evaluation of the Contribution of the Studies to the Understanding of the Economic Benefits of Tourism

The three studies taken as a group advanced understanding, in general terms, of the nature of the economic impact of tourism in areas which are considered major tourist destinations. Thus they provided context specific information which was required for both advocacy and planning reasons.

As importantly, however, as demonstrated in this section they provided details of the nature of the direct benefits. Thus they added objective information about whether the benefits of visitor spending were restricted to the owners of the businesses in which visitors spent their money. As shown in the example of Brighton and Hove the benefits of tourism are spread throughout the local community. Such results are useful in both an advocacy and a planning context.

THE LEVEL OF IMPORTANCE OF TOURISM IN DIFFERENT AREAS

Most of the information about the increased understanding of the economic benefits provided by tourism which has so far been detailed has been planning information. That is, the information allowed for macro comparisons between tourism and other economic activities or micro comparisons between different types of tourism. However, as detailed in Chapter Three, a major concern in commissioning the studies has been with providing information on how much tourism was worth to individual economies. This can be demonstrated from the results of the studies of Edinburgh, Exmoor National Park, and Scotland. The importance for Merseyside has already been presented in Chapter Seven.

For Edinburgh it was estimated that in 1976 holiday visitors to the City, including day visitors, spent £18.2 million. As a result of this spending the incomes of residents of Edinburgh, and of businesses with head offices in Edinburgh, increased by £5.1 million and 3,487 all-year full-time job equivalents were supported.

Such figures have no reference point by which tourism can be judged in respect of other economic activities, although they do illustrate that for Edinburgh the tourism industry is substantial. The only reference point available is that provided for jobs by the Census of Employment. To make a comparison with the statistics provided through the Census of Employment it is necessary only to use the number of direct tourism-related jobs. For Edinburgh the number of all-year full-time direct job equivalents was 2,600. This means that tourism would have ranked 22nd out of 28 Standard

Industrial Classifications (with tourism added as a classification). Alternatively if the actual number of direct jobs created (5,350) was used for the comparison then tourism would have ranked 14th.

For Exmoor National Park it was estimated that between April and October (inclusive) holiday visitors who stayed overnight and day visitors spent £18.2 million. As a result of this spending the incomes of residents of Exmoor were increased by £4 million and 1,590 all-year full-time job equivalents were supported. In unstandardised terms the job figure was 4,610.

Again the only reference point against which such figures can be judged is that of jobs in other economic activities. As Exmoor is a rural area a useful comparison is with the numbers working in farming. In 1976 1,500 farmers and farm workers comprised the agricultual workforce of Exmoor (MAFF, 1981).

The study of tourism and Scotland estimated that holiday visitors to Scotland spent £481 million in 1980. This resulted in the businesses in which the visitors spent their money paying out income of £80 million net of tax to residents of Scotland. The visitor spending also supported 46,000 jobs in hotels, restaurants, retail outlets and other visitor facilities. Thus tourism, excluding the multiplier effect, supported a level of employment which was comparable with many of the Standard Industrial Classifications in Scotland.

The overall conclusion that has arisen from the studies is that while planners may debate whether tourism should be a supportive or base industry its importance should not be under-estimated. Thus when formulating policies consideration needs to be given to what might

be lost as well as to what might be gained.

TOURISM AND SPECIAL EVENTS

While there has been much debate over supporting the continuing existence of the arts, conducted mainly in the terms of welfare economics and in particular merit good arguments in favour of the arts, an increasingly important part of the debate has focused attention on the economic impact of the arts. Those in favour of supporting the continued existence of the arts have sought to reinforce their arguments on intrinsic merit by demonstrating that while it may not be the specific function of the arts to generate economic benefits such benefits do arise.

Only one study of the economic worth of an artistic event has been undertaken in Great Britain. In 1976 the Lothian Region Council and the Scottish Tourist Board commissioned the study of the Edinburgh festivals to allow more reasoned debate on their economic 'worth'. The festivals were the Edinburgh International Festival, the International Festival Fringe, the Edinburgh Military Tattoo, and the Edinburgh International Film Festival.

The parts of the study relevant to this thesis consisted of an examination of spending by visitors to Edinburgh who were attending or participating in performances of the festivals and the impact on local incomes arising from this spending.

Visitor Spending

The first part of the study was to estimate how much money was introduced into the economy because of the festivals. This can be divided into two parts: primary and secondary. The primary impact derives from the spending of visitors on festival events. The secondary impact derives from spending in other businesses such as hotels, restaurants and shops. Each of these is presented in Table 9.32.

The estimates of visitor spending at festival events were based on a survey of audiences at the events. This survey was aimed at establishing the composition of the audience in order to divide revenue from ticket sales between local residents and visitors. In total it was estimated that spending by visitors, from outside the Lothian Region, on the four Festivals amounted to £588,000.

Spending on festival events was not the only way in which visitors to Edinburgh who attended or took part in the festivals introduced money into the local economy. Both visitors attending performances and visiting performers/administrators spent money in Edinburgh businesses for accommodation, meals and other purchases. In total spending by festival-goers and visiting performers/administrators in City businesses, excluding the festivals, totalled approximately £2,918,000.

Income Creation

The second part of the study was to calculate the local income resulting from the presence of the four festivals in Edinburgh. This local income consisted of the wage, rent and profit payments made to residents of

TABLE 9.32: Primary and Secondary Impacts of the Festival (i.e. The Summary Table).

Source of Income Creating Money	Income Created	
	Amount	In City of Edinburgh
	£	£
All Festival Tickets (Visitors)	588,300	90,000
All Grants from National Bodies	237,400	32,500
Staying Visitor Expenditure in City Businesses	2,500,000	712,600
Day Visitor Expenditure in City Businesses	213,000	48,600
Members of Visiting Companies Expenditure in City Businesses	196,600	61,300
Film Conference Visitor Expenditure in City Businesses	9,100	3,300

the City of Edinburgh as a result of visitors to the City buying tickets for festival events or buying goods and services from businesses in the City. The estimates of these amounts were based on a survey of the enterprises involved in the festivals and of businesses in Edinburgh and the Lothian Region.

Based on local income coefficients derived for each of the festivals (Table 9.33) it was estimated that, as a result of ticket sales to visitors from outside the Lothian Region, £90,000 of income was created for residents of the City.

The application of the relevant local income coefficients of businesses such as hotels, restaurants and shops to the amounts that visitors spent in Edinburgh, for example those calculated for visitors who stayed overnight (Table 9.34), revealed that all visitor spending, excluding festival events, resulted in £826,000 of income to residents of the City of Edinburgh.

An Evaluation of the Contribution of the Study to the Understanding of the Economic Benefits of Tourism

The study of the festivals was commissioned to inform local debate on the economic "worth" of the festivals. In addition to the results above the study also examined the possible economic effects of grants from national bodies the local authorities, donations by private individuals, the purchasing of tickets by local residents and the media coverage of festival events. The central lesson to emerge from this study was that the festivals are a major economic asset. As result of the festivals, visitors to the City spent £3.5 million which in turn resulted in £916,000 of income to residents of the City of Edinburgh.

TABLE 9.33: The Income Coefficients of the Four Festivals in Edinburgh.

Festival	Stage of Impact			
	Direct	Indirect	Induced	Total
	Income per £100 of turnover			
International	5	5	2	12
Fringe	23	2	4	30
Military Tattoo	8	4	2	14
Film	28	9	7	44

TABLE 9.34: Income Coefficients for Visitor Spending by Accommodation Used by Festival Goers.

Type of Visitor by Accommodation Used	Stage of Impact			
	Direct	Indirect	Induced	Total
	Income per £100 of Turnover			
Hotel	21	5	4	30
Guest House	21	7	5	32
Bed and Breakfast	14	10	4	28
Tent	15	4	3	22
Caravan	18	2	4	24
Friends and Relatives	15	4	3	22
Others	26	3	5	34
Weighted Average	18	6	4	29

Such figures illustrate that special events or attractions have a substantial economic return to the local community if the secondary impacts are also taken into account. It should be noted that the direct costs to the local authorities of staging the festivals in Edinburgh were £206,000 and therefore the rate of return to the local authorities was 400 per cent.

STUDIES OUTSIDE GREAT BRITAIN

This thesis has concentrated on the development of the understanding of the economic benefits of tourism arising from proportional multiplier studies conducted in Great Britain. In the rest of the world the use of this method has not been so common. However, a number of studies have been conducted and they include studies of Victoria BC (Liu, Juanita and Var, 1983), Hawaii (Liu, 1985,), Turkey (Liu, Var and Timur, 1984) and the Okanagen (Var and Quayson, 1984).

The researchers conducting these studies have broadly adopted the Archer framework of the model but they have not necessarily undertaken all the data collection and analysis which have been the subject of much of this thesis. For example, in the study of Hawaii the input-output analysis which had been undertaken by the Hawaii State Department of Planning and Economic Development was used to estimate the ´multiplier´ effects on income and employment.

Selected results from these studies are presented in Tables 9.35 (Victoria), 9.36 (Hawaii), 9.37 (Turkey) and 9.38 (Okanagen). Generally the results indicate similar patterns to those found in the Great Britain. However, the coefficients are larger than derived in

TABLE 9.35: Tourist Income and Employment Multipliers for Victoria, 1977.

Category of Tourists	Income Multiplier	Employment Multiplier*
Non-residential	.648	.101
Day-trippers	.637	.101
Residential (B.C.)	.644	.105
All Tourists	.647	.102

* Per $1,000 of visitor spending.

TABLE 9.36: Hawaii Tourist Income Multipliers by Accommodation Type, 1980.

Visitor	Direct	Indirect	Induced	Total
By Accommodation Type:				
Hotel	.3671	.1359	.2942	.7972
Group	.3679	.1363	.2949	.7990
FIT	.3667	.1358	.2939	.7964
Condominium	.3786	.1340	.2998	.8123
Friends & Relatives	.4105	.1131	.3063	.8299
All Visitors	.3695	.1346	.2948	.7989

TABLE 9.37: Tourist-Income Multipliers for Turkey.

Type of Visitor	Direct	Indirect	Induced	Total
All Visitors	0.4826	0.3115	1.1868	1.9809
Foreign overnight Visitors	0.4625	0.3270	1.1799	1.9695
Turkish Tourists from Abroad (overnight)	0.5320	0.2820	1.2164	2.0304
Domestic overnight Visitors	0.4889	0.3026	1.1829	1.9744
Foreign excursionists	0.6258	0.1853	1.2121	2.0231
Domestic excursionists	0.5941	0.2211	1.2183	2.0335

TABLE 9.38: Tourist Income and Employment Multipliers in Okanagan.

Category of Tourist	Direct	Indirect	Induced	Total
	Per $1 of Tourist Spending			
Income:				
Non-residential	.377	.099	.240	.716
Convention Delegates	.406	.103	.256	.765
Day-trippers	.367	.071	.221	.659
Residential (B.C.)	.377	.095	.238	.710
All Tourists	.400	.086	.245	.731
Employment:				
Non-residential	.043	.012	.039	.094
Convention Delegates	.035	.011	.037	.083
Day-trippers	.034	.009	.035	.078
Residential (B.C.)	.043	.012	.038	.093
All Tourists	.041	.011	.039	.091

TABLE 9.39: Comparison of Proportional and Incremental Multiplier Values.

Type of Spending	Stage of Impact				
	Direct	Indirect	Induced	Total	Ratio*
	Income per £100 Spent by Visitors				
Spending on Accommodation	0.25	0.07	0.03	0.35	1.4
Spending outside Accommodation	0.17	0.05	0.03	0.25	1.5
Total Spending	0.21	0.06	0.03	0.30	1.4

* Incremental multiplier expressing ratio of total impact to direct impact.

studies conducted in Great Britain. The reason for this is probably a higher degree of self sufficiency in the host economies, a reason pointed to by the authors of the studies of Turkey and Okanagen. However, another reason may be the definition of income adopted, and to an extent brought about by the use of existing input-output tables. Thus, for example, in the Okanagen study the authors state that they ignored "factor payments to non-residents since information on such payments was unavailable" (Var and Quayson, 1985, p502). If such payments had been included in the studies conducted in Great Britain the size of the coefficients produced would have been far larger, although it is doubtful that the values would have reached the levels indicated in the studies conducted outside Great Britain.

AN OVERALL ASSESSMENT OF THE CONTRIBUTION OF THE STUDIES TO PLANNING FOR TOURISM

Studies of the economic benefits provided by tourism provide statistics which can guide the use of scarce public resources. The results are particularly suited because they allow for policy development based on either the type of visitor or the type of business. The studies of the economic benefits of tourism offer six broad guides to policy formulation in addition to the area specific guidance that each provided for the areas in which the studies took place.

Six Broad Guides to Policy Makers

Firstly, tourists are not all the same. They vary in the amount they spend in total and in the pattern of their spending. Certain visitor types have consistently been shown to spend more either per day or in total:

those using serviced accommodation as opposed to less-serviced accommodation, those who stay overnight as opposed to those on a day visit, and those who come from overseas as opposed to those who come from Great Britain.

The policy implications of this were demonstrated in the hypothetical example provided in Chapter Seven. In that example two simplified objectives for policy were presented. The first objective was to maximise the local income produced from a set amount of grant aid. The second objective was to maximise the local income produced while keeping visitor numbers to a minimum. The two policy objectives required different target markets to be selected; self catering accommodation for objective one and hotels for objective two. Such procedures have been implicit in the United Kingdom in the preparation of local tourism strategies with normally hotels being selected as that component of the tourist industry which will be developed. However a number of obstacles stand in the way between the objective and its realisation. Such obstacles include the free choice of entrepreneurs and the free choice of visitors.

Secondly, little prominence was generally given in the early studies, or in the literature reviews and policy documents, to the actual expenditure of visitors in discussion of the results of studies of the economic benefits of tourism. But actual expenditure is equally important. This importance is reinforced when the relative sizes of the parts of the multiplier are considered. As has been described the direct income created comprises a very large proportion of the total income. Therefore the more opportunities for people to spend their money the better. This may appear a trivial point but it is one that is often lost sight of

when discussing tourism development. If you do not give people the chance to spend their money you will not get the benefits. Policies should be aimed at providing these chances, for example, shopping hours, public house hours and the development of attractions.

Thirdly, proportional multiplier analysis enables correct comparative analysis as it is based on the performance of different components within defined sectors. For example, a person looking at Table 9.39, which has both incremental and proportional coefficients could, if not familiar with multipliers, possibly reach false conclusions by looking at the incremental values. The conclusion may be reached that an injection into the non-accommodation sector would generate more income than an injection to the accommodation sector. However, the proportional values demonstrate that in fact the reality is the other way around. This is, of course, due to the fact that an incremental multiplier is a ratio of the total effect to the direct effect whereas the proportional multiplier is a ratio of the total effect to the initial injection. An incremental multiplier does not give a true indication of which activity generates the most impact because it does not include information on the size of the initial leakage, although it does provide an indication of the degree of internal linkage.

Fourthly, the use of the incremental multiplier puts the emphasis on the least important aspects of impact, the indirect and induced effects. As has continually been demonstrated in Great Britain, in local or regional economies the direct effect will substantially outweigh the other effects. In fact through purchases and income they largely define the extent of the indirect and induced effects. Thus it is the direct

effects which are of prime importance if the policy maker is to understand the nature of economic benefits. The proportional analysis allows demonstration of two crucial aspects for the policy maker. Not only does it demonstrate the size of the direct benefits it also demonstrates what those benefits are and, to an extent, who receives them.

Fifthly, the role of tourism in the economy is suggested by the results of tourism impact studies. The studies have illustrated that the role of tourism will probably be supportive and complementary to the industrial structure of an area rather than as the basic economic activity because of the type of jobs and the type of workers involved.

Lastly there is the propensity to import goods and services. Regions of Great Britain are set in a mature national economy, the structure of which almost pre-determines that many goods and services will come from elsewhere. Obviously the smaller the size of the leakages the greater the benefit to the local community. Therefore, the development of craft based, or local resource based industries and services, in which the import content is low, will increase the benefit derived locally from tourism.

An Evaluation of the Policy Implications

As illustrated above proportional multiplier analysis can aid policy making. In particular the analysis offers guidance on the development of selective policies. However, the analysis does not ensure the success of the policies. It does not, necessarily provide the policy maker with a panacea for his problems. The success of any policy developed is constrained by:

a) the free choice of the providers of tourism services

b) the free choice of the tourists

c) the free choice of those who work, or might work, in the industry

d) long term influences such as the weather and the economic climate.

Thus, firstly, for example, multiplier studies have identified those types of visitor or development which would appear to be the best, but not every area can have the best type: there are not enough of this type nor can every potential visitor afford to be the best type. Similarly the main differentiation of visitors is based on the accommodation used. Therefore controlling the supply of accommodation would appear to be a means of controlling the type of visitor. But will discouraging the development of, for example, campsites promote hotel building by those who would have provided campsites. Equally will not providing campsites mean that visitors will use hotels rather than go elsewhere. Thus a major caveat on the use of multiplier analysis is realism in expectations.

Secondly, impact studies have concentrated on producing statistics to illustrate the size and characteristics of, for example, the workforce. The analysis has then been used to validate policy proposals. These policy proposals have often assumed that the labour will be forthcoming if the policy is implemented. The study of Scotland (Vaughan et al, 1987) examined the attractiveness of tourism to the potential labour force. While the general level of skill required to obtain a job was found to be unlikely to constrain the

supply of labour the perceptions of employment in tourism might. Generally those unemployed interviewed did not expect to find good pay and security in tourism related work. Nor did they see a job in tourism as providing good prospects or the opportunity to develop their skills. This will inevitably colour whether people will seek or accept a position in the tourist sector.

Lastly there may be objectives which conflict for the policy-maker and on which multiplier analysis can shed only a small amount of light. A festival administrator, for example, may see, as a means of ensuring continued support from the local authority, the advocacy potential of the festivals' role as a catalyst in the visitor market. Multiplier analysis can then be used to identify the impact and those sectors of the festivals' visiting audience which are most beneficial. But the festival may also be viewed in terms of its contributions to a 'good' society. This may be judged, locally, in terms of local participation. Multiplier analysis will demonstrate that increasing local participation at the expense of visitors will reduce the economic impact. Until the policy-maker defines the objective then either economic impact or local participation can be used to praise or condemn the festival.

CONCLUSION

The contribution of tourism to the national and local economies has been recognised, although whether tourism has earned the support of the government it deserves is open to doubt. Examination of the economic benefits of tourism demonstrates that while making tourist services

available to visitors and producing commodities are two completely different types of economic activity there is little difference in the end results: money introduced into the economy and employment for, and income to, residents.

Disentangling the economic impact characteristics of different types of visitor has enabled the better understanding of the implications of changes to be understood and acted upon. Different types of visitor spend different amounts of money in different patterns. Also businesses allocate different proportions of their turnover to different items of expenditure. As a result the economic impact of different types of visitor varies.

Through the studies on which this thesis was based the analysis has been extended in the ways shown in this chapter. There has been the straightforward increase in understanding which has come about through the application of the analysis in areas which have differed in scale and in character. There has been the more complex advance in the dis-aggregating of the direct impact. Finally, there has been the increase in understanding of the impact of tourism vis a vis other economic activities. Thus while all the studies have continued to provide the essential advocacy information about how much tourism was worth the planning information has been increased.

CHAPTER TEN

THE FUTURE

INTRODUCTION

Proportional multiplier analysis has been the preferred method of measuring the economic benefits of visitor spending in Great Britain. It has been preferred, and been adopted in the studies on which this thesis is based, for three reasons. It is cost effective, in that it meets both advocacy and planning needs. It is well specified, in that the content of the model and data are seen to be relevant and to give reasonable results. Finally, it is context sensitive, that is it is applicable in different areas regardless of the size and character of the area.

The major part of this thesis has been concerned with evaluating the analytical framework and the data collection involved in proportional multiplier analysis of the economic benefits of visitor spending to host communities. The aim of this chapter is to look forward to possible modifications to, and applications of, the analysis which may provide further insights into these benefits.

THE SCOPE FOR IMPROVING THE METHODOLOGY

The research on which the thesis is based has been commissioned by public sector agencies, from the author of the thesis, to answer specific questions. Thus the

scope of the work in any particular study has been constrained by the requirements of the commissioning agency. However, over the period covered by this thesis, the author has made improvements to the specification of the model and to the data applied to the model. The thesis has explored these developments in some detail and therefore this section will only provide a brief precis of how the model, the data and the data collection exercises have been improved.

The Development of the Model 1976-1986

During the course of the studies on which this thesis is based the model has been modified. The modifications have attempted to make the results more 'accurate' and to provide more information about the actual impact of visitor spending.

Probably the least important of the developments of the model is that the composition of the flows of money through the induced part of the model has been altered so that only personal disposable income is included. Thus the model more accurately reflects reality. However, as was detailed in Chapter Eight, this has probably only had a small impact on the results produced.

Although a major component of only two studies (Exmoor and Scotland) the second development of note has been the specification and measurement of the purchasing by businesses as a result of visitor spending. This extension to the model was developed to meet the specific requirements of the Exmoor study, the need to demonstrate the relative strength of the linkages between businesses and the economy in which they are set.

The third advance took advantage of the incremental nature of the model. This incremental nature is one of its main strengths as it allows flexibility in application. Upto 1979 the model had only been used in full. Thus the results were based on the spending of visitors classified in various ways. While such results were extremely useful, and still are the main focus of the analysis, they do not meet all the needs of the planner. The main problem is that they combine a range of contrasting business types. For the planner it is useful to have individual business type results available, not least because it allows more scope for calculating the likely impact of changes in tourism in the area.

The flexibility of the model was also the keynote of what may prove to be the main development in the application of the model since 1976 in respect of increasing the understanding of the economic benefits offered by visitor spending. The emphasis of the studies has changed from a simple quantification of the scale of the total benefits to a quite detailed consideration of the nature of the direct income and direct jobs. Thus, for example, as well as a single estimate of the rate of income creation, and of the total income created, the composition of this income in respect of the contribution of wages, drawings, retained capital and rent to the estimate of direct income has been measured.

Finally, in terms of accuracy, a significant improvement has been made to the business element of the analysis through the introduction of weighting according to the size of the enterprise. As was demonstrated in Chapter Eight adjusting the sample to conform more closely to the population from which it is drawn can result in quite significant differences in

the results produced.

The Improvements in the Data 1976-1986

Hand in hand with these developments of the model have been developments in the data used in the estimation of the economic benefits of visitor spending. These improvements have been geared towards improving the data in terms of cost effectiveness and relevance and, by implication, thereby increasing the accuracy.

In order to increase the cost effectiveness of the data collection procedures a number of changes have been made. For example, in respect of visitor spending the main innovation was the development of the two stage approach to interviewing which enabled control over excessive sample sizes for the more 'popular' visitor types and inadequate sample sizes for the less 'popular visitor types.

In order to increase the accuracy of the data the questionnaires and the sampling procedures have been improved. For example, in the business survey a more complex stratified random sampling combined with weighting has been introduced so that the business data more accurately reflects the different types of business which make up specific parts of the tourist-related sector such as hotels. In addition the business questionnaire has been developed to a format which allows for continuous verification of the validity of the answers supplied.

There have also been developments which have increased the scope of the analysis. For example, the business questionnaire has been revised since 1976 so that it is now possible to identify the types of income created.

The Future

The discussion above, and in Chapter Eight, suggests that the scope for improving the model and the data is extremely limited. Further development may also prove counter-productive in that the method may not remain cost effective in terms of time and financial resources. The improvements in accuracy likely from modifying the equations, marginally increasing the sample sizes and improving the questionnaires are unlikely to significantly improve the results produced.

This is not to say that the analysis and the data collection as the stand today are perfect. They are open to a number of questions. How much of an effect do the assumptions contained in the model have on the results? Have the visitors fully answered the questions on spending? What effect might non-response by some types of businesses be having on the results? Each of these could be considered in future studies such as comparing the spending of visitors recorded during an interview with the spending by visitors recorded in a time diary.

However, perhaps the most promising avenue for future development does not lie with answering these questions but with more fully utilising weighting of the business survey data. It has proved to have a significant effect on the results for the hotel sector. The probability is it may have an equally significant effect on the other business sectors. The question is, how might it be applied to the other sectors given the difficulty of defining where the tourist-related sector of the economy begins and ends?

BUILDING ON EXISTING DATA

Estimates of the impact of visitor spending are dependent on the level and pattern of the spending and on the structure and linkages of the businesses in which visitors spend their money. As the results of proportional multiplier studies have become available so people have looked at ways of deriving the estimates without the time and expense of conducting either of, or both of, a visitor survey and a business survey. This section looks at the feasibility of such exercises within Great Britain in the future. Firstly, the possibility of using national data on visitor spending is examined. Secondly, the possibility of transferring data about businesses is explored. Thirdly, the methods by which the data can be combined are assessed.

Visitor Spending

The possibility of using a national data set appears to have been improved with the introduction of the British Tourism Survey (BTS) which collects data on both the level and the pattern of spending. The BTS, however, has a number of limitations in respect of providing information of use in estimating the economic impacts of visitor spending in 'small' areas (smaller than tourist board regions).

As was the case with the BHTS the overall size of the sample for any regional/local area is still small. This determines the size of area for which results are produced or are realistic. In terms of both providing estimates of nights and of spending, the smallest area for which results are produced is that of the regional tourist board. Areas smaller than this require special analysis which, on the only occasion it has been

undertaken in the past, invloved using the data from two years rather than one.

The data on spending covers the whole of the trip and not purely the spending that takes place within the area for which economic impact estimates are to be compiled. Thus it is not possible to restrict the amount and pattern of spending to the area being considered.

The data on spending on accommodation can be divided between the different types of accommodation but again at the local/regional level the sample sizes are likely to be very small. In the context of economic impact studies the hypothesis was, and has been shown to be true, that there is great variation between different types of accommodation in their relationship between turnover and the components of economic impact (income, jobs and purchases).

From 1987 questions about the pattern of spending will be included automatically in the International Passenger Survey (IPS). However, while this is a substantial improvement the scope for using IPS data is still limited for small areas for a number of reasons.

Firstly, the data on spending covers the whole of the trip and is then allocated to specific destinations. However, the IPS only allows for 5 destinations (plus one in Wales) per visitor and all spending is allocated between these 5 destinations.

Secondly, the division of spending between the different categories of spending is only available on a whole trip basis. In addition, the 1979 results are still the only ones available which analyse expenditure by the type of accommodation used.

The Leisure Visits Survey (LVS) is undertaken by Taylor Nelson Associates. It was in 1987 that this became an annual survey. Thus it has not been available in the past as a data source about day visitors, a type of tourist which is not covered by either of the above surveys.

The LVS covers journeys, for leisure purposes, of between 3 hours and 24 hours, excluding any journeys involving an overnight stay. The sample used is based on 3 panels of about 800. Each of these panels record details of their journeys during 4 months of the year. Panel 1, for example, provides details for January, April, July and October. The diaries cover a variety of subjects such as main place visited, and activities undertaken. In particular, in this context, the diaries contain questions on spending.

The main limitation of the LVS in terms of providing data on numbers and spending is that they cannot be allocated between regions/areas except on the basis of main destination, although the spending in particular may have occurred at other locations.

Overall, therefore, even with the improvements to the surveys conducted continuously each year on domestic tourists, visitors from overseas and day visitors the data sets are unlikely to be of use in studies of small areas. To use them would require the commissioning of special analyses and the results would still be open to question in respect of relevance, coverage and accuracy as detailed in Chapter Two. Thus below the regional tourist board level surveys of visitors will still be necessary.

The Results of the Analyses of Businesses

To transfer the results of the analyses of business structures and linkages which have been conducted to other areas it is necessary to make three assumptions.

The first assumption is that businesses of a similar type in the area for which the estimate is being made, say hotels of between 1-11 bedrooms, have similar ratios between turnover and income or number of jobs as those in the area in which the data was collected.

The second assumption is that the level of productivity in the businesses concerned is not significantly different between the year in which the business data was collected and the year for which visitor spending data is available.

The third assumption is that the local economy for which the estimate is to be made is similar to that in which the data was collected in terms of the level of linkage between businesses (the indirect impact) and opportunities for consumer (local resident) spending (induced impact).

If these assumptions are accepted then the data on businesses can be transferred between areas. This transfer can be done either with the data as it stands, with only adjustment to take account of the changing level of prices being undertaken, or, if the data available permits, with the data being adjusted to take account of differing propensities to 'import' goods and services.

The reason for taking account of different propensities to 'import' goods and services is that it can be argued (TRRU, 1977, ppl15-117) that the propensity to import

is the most likely element in the analysis to change significantly between areas. Direct taxation and indirect taxation are nationally determined. Dispersion of profit will vary by type of ownership but for most areas the head offices of national companies will be elsewhere. Lastly, while areas may differ in the extent of 'migrant' labour, and therefore the local content of wages may vary, this will only affect a small part of the accommodation sector.

Thus it would seem possible to transfer business data between areas. However, transferring the data would not give specific dis-aggregate local results and would give less 'accurate' results than were a survey conducted. The main problem is that while the hierarchy in respect of the size of the coefficients of impact have remained relatively stable in each area the actual size of the coefficients have varied, sometimes significantly as shown in Chapter Eight.

The Possibilities in Combining Visitor Spending with Data on Businesses

The results from multiplier analysis of the economic benefits of tourism can be combined with estimates of visitor spending in a number of ways. However, before dealing with these it is necessary to return to the question of visitor spending.

As indicated above, analyses of national data sets (BTS, IPS and LVS) is not generally available below the level of the regional tourist board. Thus it will be necessary to build up the estimate of visitor spending using the average spending per day derived from the national surveys with estimates of visitor days derived from local sources. The major problems in this are the number of day visitor days and the number of days spent

in the area by people visiting friends and relatives. As indicated elsewhere (Vaughan, 1987) there is no real solution to these problems without conducting a visitor survey.

Assuming, however, that the problem of estimating visitor spending can be resolved the first way in which the results of impact studies can be transferred is to simply take the visitor type income/job coefficients, for example a coefficient which indicates that visitors staying in hotels create £0.20 of income through every £1 they spend (the money being spent in all types of business and not just the hotel). This has been the method most commonly adopted by local authorities when trying to give some indication of the impact of tourism on their local area. However, it is not the most satisfactory method because of the assumptions involved.

The coefficient(s) transferred between areas is a weighted average of the impact characteristics of the different types of business in which visitors spend their money. This method, therefore assumes that the pattern of spending is the same in both areas. In addition, it assumes that the combination of businesses within each part of the tourist-related sector is the same. For example, it assumes that hotels with more than 100 bedrooms comprise the same proportion of the hotel stock in both areas. Such assumptions may be dangerous given the large differences between different types of business.

The second method is a more complicated version of the first in that instead of simply transferring the results wholesale estimates are built up using data on the businesses rather than simply coefficients for each visitor type. Thus this method attempts to overcome the

limitations of method one by more accurately matching the data transferred to the composition of the tourist industry in the area under consideration.

This method has the limitation that the business coefficients used are those from an area with apparently similar characteristics and these are weighted by the pattern of visitor spending. However, the data on businesses are derived from only one area and there may be reasons why some of the data are atypical or specific for the area in which they were collected.

The final method is not one generally available because it relies on a databank of information about the impact characteristics of businesses. This analysis combines the data on businesses from as many studies as possible and produces 'new' coefficients for each business type. Thus the analysis combines all the information about hotels of more than 100 bedrooms to produce coefficients about such enterprises.

Thus in this analysis it is assumed that the type of business is more important in determining the operating characteristics which give rise to economic impact than the location. The 'locational' element, such as the propensity to purchase goods and services locally, is added in through supplemental, small scale, surveys in the area under consideration.

The Future

The adaptation of existing data is an attractive proposition for public sector authorities when providing estimates of the impact of tourism on their areas or in assessing the likely impact of proposed developments. The more 'complex' the method adopted the

more likely the results are to reflect the locality. In many cases estimates based on existing data will provide a broad answer to the questions posed on economic impact. However, transference of data is not likely to replace the undertaking of specific surveys. There will always be the question of 'uniqueness' of the area in the minds of the policy maker and the possibility that local circumstances are different. In addition, transferring data can never provide the more qualitative analysis of, for example, the type of job involved in tourism.

DIRECTIONS FOR FUTURE QUANTITATIVE RESEARCH

In the past economic impact studies of the type on which this thesis is based have generally been commissioned in specific local areas to meet the advocacy and planning needs of the public sector bodies in those areas.

The model was initially developed to address micro planning issues related to the relative performance of different types of tourism in stimulating economic activity and creating income and supporting employment. Subsequently, as illustrated in Chapter Nine, the model has been used to address macro planning issues. The macro planning issues addressed related to how well tourist-related enterprises performed vis-a-vis other economic activities in terms of stimulating local economic activity and in creating income and supporting jobs. Both types of study will be necessary in the future given the problems of using existing data as discussed above. Two likely avenues for research are detailed below.

New Analyses of Tourism

The study of the national parks (TRRU, 1981) and of Scotland (Vaughan et al, 1987) tackled broader questions about the impact of tourism in general rather than in terms of a specific geographical area. In effect the public sector bodies were trying to commission studies with broader implications. Thus, perhaps, the most important direction for future research is comparative studies, either of the macro type (comparing tourism with other economic activities) or of the micro type (comparing between tourism of different types or tourism in different contexts).

For example, in the micro context studies similar to the community-based analysis of Tayside would seem appropriate. While a great deal is now known about a large number of areas many of those areas contain very different types of community and the differences could be significant. As Henderson commented in the Tayside report "the region is not a homogeneous unit for analysing the impact of tourism" (TRRU, 1975, p113).

Analyses of the Arts and Sport

Proportional multiplier analysis would seem ideally equipped to analyse the local economic impacts of the arts and sport, particularly of artistic and sporting events. Surprisingly, therefore, such analysis is very rare. The Edinburgh Festival study (Vaughan, 1977), which forms part of the basis of this thesis, is the only application of such analysis to an artistic event and, as part of the study of Merseyside (Vaughan, 1987), the economic impact of the arts in a metropolitan county has been estimated. This latter work forms part of an overall assessment of the economic worth of the arts in Great Britain currently

being conducted by the Policy Studies Institute which also involves further case studies of local impact in Glasgow and Suffolk.

No doubt the potential of the analysis to provide important inputs into the advocacy debate in both the arts and sport will result in studies being commissioned in the future. However, it is important to present a cautionary note on the use of such analysis.

The analysis provides information by which the varying impacts of the arts and sport can be assessed. Thus, for example, the analysis can be used to measure/demonstrate the economic relationship of a theatre with the local community both as an individual business and as a catalyst for other businesses, such as restaurants, which are used by its patrons. It is the second aspect which is likely to be most significant economically and, in policy development terms, for which impact analysis of the type considered in this thesis has most relevance. The analysis can guide development, management and marketing policies in terms of increasing impact by demonstrating, for example, that the different spending characteristics of different theatre goers result in different economic impacts. The temptation to resist, however, is to choose between theatres and cinemas on these grounds or between ballet and pop concerts.

CONCLUSION

This thesis has concentrated on examining the framework and data requirements of a quantitative analysis of the economic benefits derived by host communities as a result of, and including, visitor spending. The use of

a formal model has indicated a conscious decision on the part of policy makers and planners for a quantitative rather than qualitative assessment of the impact of visitor spending. Questions like "how many jobs?" have taken precedence over "what types of work?".

The thesis has evaluated the success of proportional multiplier analysis, and the studies on which this thesis is based, in providing answers to the quantitative questions. There are, however, a number of other aspects of impact which have tended to be obscured by the concentration on quantifying the economic benefits.

These aspects are outside the scope of this thesis but they are crucial to a full understanding of the meaning and significance of the economic benefits provided by visitor spending. Such aspects are the economic, social and environmental costs of tourism as discussed in Chapter One. Also there is the quality of the work provided by tourist enterprises. Finally there is the question of the opportunity cost of devoting resources to tourism. Consideration of each of these would improve understanding of tourism and its impacts.

Recognising, therefore, that proportional multiplier analysis can only offer an answer to part of the question about the economic impact of tourism, how might that contribution be evaluated? The evaluation can be divided into two elements. These elements are the positive and the negative.

There are three positive aspects of the analysis. Firstly, proportional multiplier analysis has remedied the deficiencies in tourism statistics about the worth of tourism cost effectively. Thus the analysis has

answered questions about what the current economic benefits of visitor spending are, how those benefits arise and the scale and nature of the benefits arising in the future as a result of pursuing particular policies. Secondly the method has proved robust and practical. In general the results in different areas and produced by different researchers have told a similar story. The results may not be the same numerically but they are the same in the implications which can be derived. Thirdly, the analysis is flexible as a result of being incremental. Thus, it can be directed to give different degrees of consideration to the different parts of the process by which visitor spending benefits the host community.

There are three negative aspects to proportional multiplier analysis. Firstly, the analysis, like all applied economic analysis, has limitations which arise from the assumptions necessary to quantify reality. Secondly, the analysis is data dependent. If the wrong data are used then the results will be useless despite the apparent 'elegance' of the model. Thirdly, the model can lead to simplistic interpretation of the numbers. Thus, insufficient consideration may be given to the results as they stand rather than to the context in which they were derived and in which policies are being formulated and enacted. Multiplier analysis has provided numbers on which to base policies but it can provide no guidance on whether the policies will be successful.

Overall, multiplier analysis, despite its limitations, has proved to be a useful tool for analysing the impact of tourism on a local economy. It is a tool that is still being used and offers further understanding in the future. It has provided a great deal of information about tourism which has been invaluable to the public

sector in formulating policies for the development, management and promotion of tourism.

As Hanna has commented multiplier analyses "help us to understand more clearly the workings of our economic system for one particular industry" (1976. p22). Thus the analysis has provided a range and detail of information about the significance of tourism in local economies as a whole and for the component activities of tourism which is not available from more aggregate methods. In addition, the methodology has been shown to be applicable to comparative evaluations of tourism within the economy. Thus the method has demonstrated, and still offers, a systematic analysis of the tourism economy inter-relationship.

REFERENCES

AIREY, D. (1978): "Tourism and the Balance of Payments". Tourism International Research (3rd Quarter), pp 2-16.

ALEXANDER, J. (1954): "The Basic-Nonbasic Concept of Urban Economic Functions". Economic Geographer 30, pp 246-261.

ARCHER, B. and OWEN, C. (1971): "Towards a Tourist Regional Multiplier". Regional Studies 5, pp 289-294.

ARCHER, B. (1972): "Methods of Calculating Tourist Regional Expenditure". Journal of the Royal Town Planning Institute, Vol. 58, pp 17-18.

ARCHER, B. (1973a): "The Impact of Domestic Tourism". University of Wales Press, Cardiff.

ARCHER, B. (1973b): "The Uses and Abuses of Multipliers". Research Paper TUR 1, University of Bangor.

ARCHER, B., SHEA, S. and DE VANE, R. (1974): "Tourism in Gwynedd: An Economic Study". Wales Tourist Board, Cardiff.

ARCHER, B. and SHEA, S. (1975): "The Length of Stay Problem in Tourism Research". Journal of Travel Research, Vol. 12, pp 8-10.

ARCHER, B. (1976a): "The Anatomy of a Multiplier". Regional Studies 10, pp 71-77.

ARCHER, B. (1976b): "The Uses and Abuses of Multipliers". Planning for Tourism Development: Quantitative Approaches (C. Gearing, Ed.). Praeger, New York.

ARCHER, B. (1977a): "Input-Output Analysis: Its Strengths, Limitations and Weaknesses". Eighth Annual Conference Proceedings, The Travel Research Association, Salt Lake City. pp 89-101.

ARCHER, B. (1977b): "Tourism Multipliers: The State of the Art". Bangor Occasional Papers in Economics, No. 11. University of Wales Press, Cardiff.

ARCHER, B. (1977c): "The Economic Costs and Benefits of Tourism". Tourism: A Tool for Regional Development. (B. Duffield, Ed). Leisure Studies Association.

ARCHER, B., DE VANE, R. and MOORE, J. (1977d): "Tourism in the Coastal Strip of East Anglia". Department of the Environment. London.

ARCHER, B and JONES, D. (1977e): "Tourism in Appleby, Keswick and Sedbergh". Institute of Economic Research. Bangor.

ARCHER, B. and SHEA, S. (1977f): "Manpower in Tourism - The Situation in Wales". Wales Tourist Board, Cardiff.

ARCHER, B. (1977g): "Tourism in the Bahamas and Bermuda: Two Case Studies". Bangor Occasional Papers in Economics No. 10. University of Wales Press, Bangor.

ARCHER, B. (1979): "Tourism in Carlisle and Kendall". University of Surrey, Guildford.

ARCHER, B. (1980a): "Grant Assisted Tourism Projects in Wales". Wales Tourist Board, Cardiff.

ARCHER, B. and WANHILL, S. (1980b): "Tourism in Bermuda: An Economic Evaluation". University of Surrey, Guildford.

ARCHER, B. (1982): "The Value of Multipliers and their Policy Implications". Tourism Management (December), pp 236-241.

ARCHER, B. (1984): "Economic Impact: Misleading Multipliers". Annals of Tourism Research, No. 3, pp 517-518.

ARCHER, B. (1985): "Tourism in Mauritius: An Economic Impact Study with Marketing Implications". Tourism Management (March), pp 50-54.

ARCHIBALD, G. (1967): "Regional Multiplier Effects in Great Britain". Oxford Economic Papers 19, pp 22-45.

ARMSTRONG, W., DANIEL, S. and FRANCIS, A. (1974): "A Structural Analysis of the Barbados Economy, 1968, with an Application to the Tourist Industry". Social and Economic Studies, Vol. 23, No. 4, pp 493-520.

BARDON, K. and HARDING, D. (1981): "On-Site Questionnaire Surveys in U.K. Leisure Research". Tourism Management (March), pp 36-48.

BASTER, J. (1980): "Input-Output Analysis of Tourism Benefits: Lessons from Scotland". Tourism Management.

BLACK, P. (1981): "Injection Leakages, Trade Repercussions and the Regional Income Multiplier". Scottish Journal of Political Economy, Vol. 28, No. 3, pp 227-315.

BLAKE, C. and McDOWALL, s. (1967): "A Local Input-Output Table". Scottish Journal of Political Economy 14, pp 227-235.

BLAKE, C., McDOWALL, S. and DEVLEN, J. (1977): "The 1978 Open Championship at St. Andrews - An Economic Impact Study". Scottish Academic Press, Edinburgh.

BLUMENFELD, H. (1955): "The Economic Base of the Metropolis". Journal of the American Institute of Planners 21, pp 114-32.

BOSERUP, M. (1969): "A Note on the Pre-history of the Kahn Multiplier". Economic Journal, Vol. 79, pp 667-669.

BROWNRIGG, M. (1971): "The Regional Income Multiplier: An Attempt to Complete the Model". Scottish Journal of Political Economy, pp 123-139.

BROWN, A. (1967): "The Green Paper on the Development Areas". National Institute Economic Review, pp 26-33.

BROWNRIGG, M. (1971): "The Regional Income Multiplier: An Attempt to Complete the Model". Scottish Journal of Political Economy, pp 281-297.

BROWNRIGG, M. (1973): "The Economic Impact of a New University". Scottish Journal of Political Economy, pp 281-297.

BROWNRIGG, M. and GREIG, M. (1974): "The Economic Impact of Tourist Spending in Skye". Highlands and Islands Development Board, Inverness.

BROWNRIGG, M. and GREIG, M. (1975): "Differential Multipliers for Tourism". Scottish Journal of Political Economy, XXII, 3, pp 261-275.

BROWNRIGG, M. and GREIG, M. (1976): "Tourism and Regional Development". Fraser of Allander Institute, Glasgow.

BRYDEN, J. and FABER, M. (1971): "Multiplying the Tourist Multiplier". Social and Economic Studies, 20, pp 61-82.

BRYDEN, J. (1973): "Tourism Development - A Case Study of the Caribbean". Cambridge University Press, London.

BURDEKIN, R. (1978): "The Construction of the 1973 Scottish Input-Output Tables". UKSC 0091.

BUREAU OF INDUSTRY ECONOMICS, (1979): "Economic Significance of Tourism in Australia". Australian Government Publishing Service, Canberra.

BURKART, A. and MEDLIK, S. (1974): "Tourism: Past, Present and Future". Heinemann, London.

BUSINESS STATISTICS OFFICE (1978, 1979, 1980, 1981): "Business Monitor MA6: Overseas Travel and Tourism". HMSO, London.

CAPSTICK, M. (1972): "Some Aspects of the Economic Effects of Tourism in the Westmorland Lake District". University of Lancaster.

CASLEY, D. and LURY, D. (1981): "Data Collection in Developing Countries". Clarendon Press, Oxford.

CENTRAL STATISTICAL OFFICE (1979): "Standard Industrial Classification, 1980". HMSO, London.

CENTRAL STATISTICAL OFFICE (1982a): "U.K. Balance of Payments Yearbook". HMSO, London.

CENTRAL STATISTICAL OFFICE (1982b): "Monthly Digest of Statistics". HMSO, London.

CHENERY, H. and CLARK, P. (1959): "Inter-Industry Economics". John Wiley and Sons.

CHIB, S. (1977): "Measurement of Tourism". Journal of Travel Research, Vol. 16, No. 2, pp 22-24.

CLAWSON, M. and KNETSCH, J. (1966): "The Economics of Outdoor Recreation". John Hopkins University Press, Baltimore.

CLEVERDON, R. (1979): "The Economic and Social Impact of International Tourism on Developing Countries". EIU Special Report, No. 60, London.

COMMISSION OF THE EUROPEAN COMMUNITY (1984); "Second Periodic Report on the Social and Economic Situation in the Community". Commission of the European Commission, Brussels.

COOPER, M. and PIGRAM, J. (1984): "Tourism and the Australian Economy". Tourism Management (March).

COURNOYER, N. and KINDAHL, J. (1982): "A Layman's Look at Tourism Statistics". The Cornell HRA Quarterly (May), pp 6-9.

CULTURAL ASSISTANCE CENTRE, (1983): "The Arts as an Industry: Their Economic Importance to the New York - New Jersey Metropolitan Region, Port Authority of NY/NJ, New York.

CWI, D. and LYALL, K. (1977): "Economic Impact of the Arts and Cultural Institutions: A Model for Assessment and a Case Study in Baltimore". National Endowment for the Arts, Washington.

CWI, D. (1980): "Models of the Role of the Arts in Economic Development". Economic Policy for the Arts (W. Hendon, Ed). Abt Books, Cambridge, pp 308-318.

DAVIDSON, J. (1970): "Outdoor Recreation Surveys - The Design and Use of Questionnaires for Site Surveys". Countryside Commission, London.

DEAN, G. (1978): "The Local Economic Impact of State Parks". Journal of Leisure Research, Vol. 10, No. 2, pp 98-112.

DE KADT, E. (1979): "Tourism: Passport to Development". Oxford University Press, New York.

DELLA BITTA, A. (1974): "Economic Impact: 1973 Newport International Sailboat Show" University of Rhode Island.

DELLA BITTA, A. (1977): "Estimating the Economic Impact of a Short-Term Event". Journal of Travel Research, Vol. 16, No. 2, pp 10-15.

DEPARTMENT OF EMPLOYMENT (Various Years): "The Family Expenditure Survey". HMSO, London.

DEPARTMENT OF EMPLOYMENT (1986): "Action for Jobs". HMSO, London.

DEPARTMENT OF THE ENVIRONMENT (1979): "Local Government and Tourism". HMSO, London.

DIAMOND, J. (1976): "Tourism and Development Policy: A Quantitative Appraisal". Bulletin of Economic Research, Vol. 28, pp 36-50.

DUFFIELD, B. and LONG, J. (1981): "Tourism in the Highlands and Islands of Scotland: Rewards and Conflicts". Annals of Tourism Research, Vol. 8, pp 403-431.

DUFFIELD, B. (1982): "Tourism: The Measurement of Economic and Social Impact". Tourism Management (Dec.) pp 248-255.

ECONOMIST ADVISORY GROUP (1970): "The Economic Contribution of Tourism in Ireland".

EDWARDS, S., JACKSON, B., BAKERS, M. and DENNIS, S. (1976): "Tourism in the South-West Region: A Methodological Report". Department of the Environment, London.

ELSON, M. (1977): "A Review and Evaluation of Countryside Recreation Site Surveys". Countryside Commission, Cheltenham.

ENGLISH TOURIST BOARD (1976): "Tourism and International Trade". English Tourist Board, London.

ENGLISH TOURIST BOARD (1978): "Planning for Tourism". English Tourist Board, London.

FRECHTLING, D. (1974): "A Model for Estimating Travel Expenditures". Journal of Travel Research, Vol. 12, No. 4, pp 9-12.

FRECHTLING, D. (1987): "Assessing the Impacts of Travel and Tourism - Introduction to Travel Impact Estimation". Travel, Tourism and Hospitality Research: A Handbook for Managers and Researchers. (J. Ritchie and C. Goeldner, Eds). Wiley, New York, pp 325-331.

FRITZ, R., KONECRY, M. and STOUCAS, P. (1984): "Tourism Expenditure Model - A Functional Planning and Policy-Making Tool". Tourism Management, (June), pp 110-117.

FUJII, E. and MAK, J. (1981): "The Impact of Hotel Size on Staffing Levels in Hawaii". Tourism Management (March(, pp 30-35.

GAMBLE, H. (1965): "Community Income from Outdoor Recreation". Governors Conference on Recreation and Parks, Maryland.

GARTNER, W. and HOLECEK, D. (1983): "The Economic Impact of an Annual Tourism Industry Exposition". Annals of Tourism Research, Vol. 10, pp 199-212.

GEARING, C., SWART, W. and VAR, T. (1976): "Planning for Tourism Development". Praeger, New York.

GETZ, D. (1986): "Models in Tourism Planning: Towards the Integration of Theory and Practice". Tourism Management (March), pp 21-32.

GRATTON, C. and TAYLOR, P. (1986): "Arts Festivals". Leisure Management (Nov), pp 20-22.

GREENWOOD, D. (1973): "The Moray Air Stations" University of Aberdeen.

GREIG, M. (1971): "The Regional Income and Employment Multiplier Effects of a Pulp Mill and Paper Mill". Scottish Journal of Political Economy, pp 31-49.

HANNA, M. (1976): "Tourism Multipliers in Britain: A Guide to Economic Multipliers in Theory and Practice". English Tourist Board, London.

HANNA, M. (1977): "Regional Tourism Multiplier Studies: Their Findings and Uses". Tourism: A Tool for Regional Development. Leisure Studies Association.

HANSEN, A. (1953): "A Guide to Keynes". McGraw Hill, London.

HANSEN, W. and TIEBOUT, C. (1963): "An Intersectoral Flows Analysis of the California Economy". The Review of Economics and Statistics, Vol. 45, pp 409-418.

HARMSTON, F. (1960): "Indirect Effect of Traveller Expenditures in a Western Community". The Dude Rancher.

HARMSTON, F. (1976): "The Importance of Tourism to Missouri". Business and Government Review, Vol. 10, pp 5-12.

HENDERSON, R. (1982): "Recent Trends in Tourism and the Economic Impact of Tourists in Scotland". Social and Economic Planning Department, Scottish Office, Edinburgh.

HENDON, W. (1983): "Benefits and Costs of Historic Preservation". Economics and Historic Preservation (W. Hendon, Ed). Association for Cultural Economics, Akron.

HENLEY CENTRE FOR FORECASTING (1978): "The Employment Generating Effects of Tourism". British Travel News No. 61, HMSO, London, pp 18-21.

HEWINGS, G. (1977): "Regional Industrial Analysis and Development". Methuen, London.

HILLS, T. and LUNDGREN, J. (1977): "The Impact of Tourism in the Caribbean: A Methodological Study". Annual of Tourism Research, Vol. 4, No. 5, pp 248-267.

HOINVILLE, G. and JOWELL, R. (1978): "Survey Research Practice". Heinemann, London.

HOLLANDER, G. (1982): "Measuring Economic Impacts of Tourism". Bureau of Industry Economics, Canberra.

HORWATH AND HORWATH (1981): "Tourism Multipliers Explained". Horwath and Horwath, London.

HUBBARD, L. (1982): "New Jobs in West Durham". University of Newcastle upon Tyne, Newcastle.

HUGHES, G. (1980): "Estimating Employment in Hotels and Guest Houses: A Case Study of Pitlochry". University of Edinburgh.

HUGHES, G. (1982): "The Employment and Economic Effects of Tourism Re-Appraised". Tourism Management (Sept.) pp 167-176.

INDUSTRIAL MARKET RESEARCH LIMITED (1975): "Evaluation of Selected Tourism Projects". English Tourist Board, London.

INDUSTRIAL MARKET RESEARCH LIMITED (1975): "Eastbourne: The Income Effects of Tourism". English Tourist Board, London.

INDUSTRIAL MARKET RESEARCH LIMITED (1979): "Woodspring: The Income Effects of Tourism". English Tourist Board, London.

INSTITUTE OF MANPOWER STUDIES (1986): "Jobs in Tourism and Leisure". English Tourist Board, London.

INTERNATIONAL MONETARY FUND (1977, 1981): "Balance of Payments Statistics Yearbook". IMF, Washington.

INTERNATIONAL MONETARY FUND (1981): International Financial Statistics". IMF, Washington.

ISARD, W. (1960): "Methods of Regional Analysis". MIT Press, Cambridge.

GATT (1974, 1981): "International Trade". GATT, London.

JACKSON, M. (1986): "Economic Impact Studies: The Methodology Applied to Tourism". Bristol Polytechnic, Bristol.

JOHNSTON, J. (1963): "Econometric Methods". McGraw Hill, London.

JURUE. (1978): "The Impact of the National Exhibition Centre". University of Aston, Birmingham.

KAHN, R. (1931): "The Relation of Home Investment to Unemployment". Economic Journal, Vol. 41, pp 173-198.

KALTER, J. and LORD, W. (1968): "Measurement of the Impact of Recreation Investments on a Local Economy". American Journal of Agricultural Economics, Vol. 50, No. 2, pp 243-256.

KENT COUNTY COUNCIL (1978): "Tourism Employment Working Paper". Kent County Council, Cantebury.

KEYNES, J. (1933): "The Multiplier". The New Statesman and Nation, (1st April), pp 405-407.

KEYNES, J. (1936): "The General Theory of Employment, Interest and Money". MacMillan, London.

KRIPPENDORF, J. (1982): "Towards a New Tourism Policy: The Importance of Environmental and Socio-cultural Factors". Tourism Management (Sept.) pp 135-148.

LATIMER, H. (1980): "Project Evaluation: The Need for a Rigorous Approach". Tourism Management (March), pp 30-41.

LEONTIEF, W. (1951): "The Structure of the American Economy, 1919-1939". Oxford University Press, New York.

LEONTIEF, W. (1966): "Input-Output Economics". Oxford University Press, New York.

LEVER, W. (1974): "Regional Multipliers and Demand Leakages at the Establishment Level". Scottish Journal of Political Economy, Vol. 11, pp 111-121.

LEVITT, K. and GULATI, I. (1970): "The Income Effects of Tourism Spending: Mystification Multiplied". Social and Economic Studies 19, pp 326-342.

LEWES, F., CULYER, A. and BRADY, G. (1970): "The Holiday Industry of Devon and Cornwall". Ministry of Housing and Local Government, London.

LITTLE, I. and MIRRLEES, J. (1974): "Project Appraisal for Planning for Developing Countries". Heinemann, London.

LOVEGROVE, R. and RHODY, D. (1972): "Effects of Fishing and Hunting Expenditures on a Local Colorado Economy". Annals of Regional Science, Vol. 6, pp 108-116.

LIU, J. and VAR, T. (1982): "Differential Multipliers for the Accommodation Sector". Tourism Management (Sept.), pp 177-187.

LIU, J. and VAR, T. (1983): "The Economic Impact of Tourism in Metropolitan Victoria, BC". Journal of Travel Research, Vol. 22, No. 2, pp 8-15.

LIU, J., VAR, T. and TIMUR, A. (1984): "Tourist Income Multipliers for Turkey". Tourism Management (Dec.), pp 280-287.

LIU, J. (1986): "Relative Economic Contributions of Visitor Groups in Hawaii". Journal of Travel Research.

MADDEN, K. (1986): "Economic Impacts Associated with the Vacation Travel Industry in South Dakota". South Dakota Business Review (June), pp 1-7.

MAK, J., MONCUR, J. and YONAMINE, D. (1977): "How or How Not to Measure Visitor Expenditure". Journal of Travel Research 16, pp 1-4.

MARKIN, R. (1974): "Consumer Behaviour; A Cognitive Orientation". Macmillan, New York.

MATHIESON, A. and WALL, G. (1982): "Tourism: Economic, Physical and Social Impacts". Longman, London.

McINTOSH, R. (1977): "Tourism: Principles, Practices and Philosophies". Grid Inc., Columbus.

MEDLIK, R. (1986): "What Happened to Jobs in Tourism?" Tourism, p5.

MINGS, R. (1978): "The Importance of More Research on the Impacts of Tourism". Annals of Tourism Research (July), pp 340-344.

MOORE, F. and PETERSON, J. (1955): "Regional Analysis: An Inter-Industry Model of Utah". The Review of Economics and Statistics, Vol. 37, pp 368-383.

MORRELL, J. (1985): "Employment in Tourism". British Tourist Authority, London.

MORRISON, W. and SMITH, P. (1977): "Input-Output Methods in Urban and Regional Planning: A Practical Guide". Pergamonn Press, London.

MOSER, C. and KALTON, G. (1971): "Survey Methods and Social Investigation". Heinemann, London.

MURPHY, P. (1985): "Tourism: A Community Approach". Methuen, London.

MIL Research Ltd. (1981): "Isle of Wight Tourist Income Appraisal". English Tourist Board, London.

NATHAN, R. (1966): "Recreation as an Industry". Nathan, R. and Associates, Washington.

NEW ENGLAND FOUNDATION FOR THE ARTS. (1980): "The Arts and the New England Economy". New England Foundation for the Arts, Cambridge.

NORTON, D. (1982): "Export Tourism Input-Output Multipliers for Ireland". Quarterly Economic Commentary, Economic and Social Research Institute, Dublin.

PEARCE, D. (1981): "Estimating Visitor Expenditure". Tourism Management (Dec.), pp 240-252.

PICKETT, M. and BETHER, D. (1972): "Skiers: Their Local Economic Impact", Federal Reserve Bank of Kansas City, Kansas.

PIZAM, A. (1987): "Planning a Tourism Research Investigation". Travel, Tourism and Hospitality Research: A Handbook for Managers and Researchers, (J. Ritchie and C. Goeldner, Eds), Wiley, New York, pp 63-76.

POLICY STUDIES INSTITUTE (1986): "The Economic Importance of the Arts on Merseyside". Policy Studies Institute, London.

REDMAN, M. (1983): "Economic Impact of a Short-Term Tourism Industry Exposition: A Comment". Annals of Tourism Research 10, pp 435-436.

RENAUD, B. (1972): "The Influence of Tourism Growth on the Production Structure of Island Economies". Review of Regional Studies, Vol. 11, No. 3, pp 41-56.

RICHARDS, G. (1972): "Tourism and the Economy". Unpublished Thesis, University of Guildford.

RITCHIE, J. (1984): "Assessing the Impact of Hallmark Events: Conceptual and Research Issues". Journal of Travel Research (Summer), pp 2-11.

ROVELSTAD, J. (1987): "Model Building and Simulation". Travel, Tourism and Hospitality Research: A Handbook for Managers and Researchers, (J. Ritchie and C. Goeldner, Eds), Wiley, New York, pp 449-458.

SADLER, P., ARCHER, B. and OWEN, C. (1973): "Regional Income Multipliers". Bangor Occasional Papers in Economics No. 1. University of Wales, Cardiff.

SESSA, A. (1983): "Elements of Tourism Economics". Catal, Rome.

SHACKLE, G. (1967): "The Years of High Theory Invention and Tradition in Economic Thought, 1926-1939". Cambridge University Press, London.

SCHULMEISTER, S. (1979): "Tourism and the Business Cycle". Australian Institute for Economic Research, Vienna.

SINCLAIR, M. and SUTCLIFFE, C. (1978): "The First Round of the Keynesian Income Multiplier". Scottish Journal of Political Economy, Vol. 25, No. 2, pp 172-186.

SMITH, V. (1977): "Hosts and Guests: The Anthropology of Tourism". University of Pennsylvania Press, Philadelphia.

SOUTHGATE P. and ASSOCIATES. (1982): "Tourism in Torbay: Survey of Local Income Effects". English Tourist Board, London.

STACEY, M. (1974): "Social Research Methods". Pergamon Press, Oxford.

STEELE, D. (1969): "Regional Multipliers in Great Britain". Oxford Economic Papers 21, pp 268-292.

STRANG, W. (1970): "Recreation and the Local Economy: An Input-Output Model of a Recreation-Oriented Economy". University of Wisconsin.

STRANG, W. (1971): "The Use of Market Segmentation in Planning for a Recreation-Based Economy". University of Wisconsin, Madison.

TAYLOR, P. and CARTER, R. (1980): "Tourism in Regional Development: Practical Implications of a New Approach to Planning for Tourism in Scotland". Tourism Planning and Development Issues, (D. Hawkins, Ed). George Washington University, Washington.

TIEBOUT, C. (1960): "Community Income Multipliers - A Population Growth Model". Journal of Regional Science, pp 75-84.

TIEBOUT, C. (1956): "Exports and Regional Economic Growth". Journal of Political Economy 64, pp160-164.

TIEBOUT, C. (1962): "The Community Economic Base Study". (Quoted in Clawson, M. and Knetsch, J., 1966). Committee for Economic Development, Washington.

TRRU, (1974): "STARS Series No. 1: Survey Description". Tourism and Recreation Research Unit, Edinburgh.

TRRU, (1975): "The Economic Impact of Tourism: A Case Study of Greater Tayside". Tourism and Recreation Research Unit, Edinburgh.

TRRU, (1976): "The Holiday Maker in Scotland", Tourism and Recreation Research Unit, Edinburgh.

TRRU, (1977): "A Research Study into Tourism and Recreation in the Chichester Area: A Basis for Planning". Tourism and Recreation Research Unit, Edinburgh.

TRRU, (1979): "Visitors to the Scottish Islands". Tourism and Recreation Research Unit, Edinburgh.

TRRU, (1981): "The Economy of Rural Communities in the National Parks of England and Wales". Tourism and Recreation Research Unit, Edinburgh.

TRRU, (1982): "Recreation Site Survey Manual". SPON, London.

TYM R. AND PARTNERS (1984): "Merseyside Integrated Development Operation" Tym and Partners, London.

VAN ARKADIE, B. and FRANK, C. (1966): "Economic Accounting and Development Planning". Oxford University Press, London.

VANHOVE, N. (1981): "Tourism and Employment". Tourism Management (Sept.), pp 162-175.

VANHOVE, N. (1983): "Inter-relation Between Benefits and Costs of Tourist Resources - An Economic Approach". Association Internationale Des Experts Scientifique Tourisme Congress. Zagreb.

VAR, J. and QUAYSON, J. (1984): "The Multiplier Impact of Tourism in the Okanagan". Annals of Tourism Research, Vol. 12, pp 497-514.

VAUGHAN, D.R. (1977a): "The Economic Impact of Tourism in Edinburgh and the Lothian Region". Scottish Tourist Board, Edinburgh.

VAUGHAN, D.R. (1977b): "The Economic Impact of the Edinburgh Festival, 1976). Scottish Tourist Board, Edinburgh.

VAUGHAN, D.R. (1977c): "Opportunity Cost and the Assessment and Development of Regional Tourism". Tourism: A Tool for Regional Development (B. Duffield, Ed). Leisure Studies Association.

VAUGHAN, D.R. (1979): "Tourism in East Kent: An Economic Appraisal". Tourism and Recreation Research Unit, Edinburgh.

VAUGHAN, D.R. (1980): "Does a Festival Pay?" Economic Policy for the Arts (W. Hendon, Ed.) Abt Books, Cambridge.

VAUGHAN, D.R. and DUFFIELD, B. (1982a): "The Economics of Tourism: Simply a Numbers Game?" Paper presented to the Seminar on Economic Issues in Recreation and Leisure, University of Kent, Canterbury.

VAUGHAN, D.R. (1982b): "A Study of the Economic Impact of Tourism on Greater London: An Assessment of the Data and Analysis Requirements". English Tourist Board, London.

VAUGHAN, D.R. and LONG, J. (1982c): "Tourism as a Generator of Employment: A Preliminary Appraisal of the Position in Britain". Journal of Travel Research, Vol. 21, No. 2.

VAUGHAN, D.R. (1983): "Tourism in Brighton and Hove: The Income and Employment Effects". English Tourist Board, London.

VAUGHAN, D.R. (1984a): "Tourism in Winchester: The Income and Employment Effects". English Tourist Board, London.

VAUGHAN, D.R. (1984b): "What Have We Learned from Studies of the Economic Benefits of Tourism?" Tourism No. 37.

VAUGHAN, D.R. (1984c): The Cultural Heritage: An Approach to Analysing the Income and Employment Effects". Journal of Cultural Economics, Vol. 8, No. 2, pp 1-36.

VAUGHAN, D.R. (1985): "Tourism in Bournemouth and South East Dorset". English Tourist Board, London.

VAUGHAN, D.R. (1986a): "An Economic Impact Study of Tourist and Associated Arts Developments in Merseyside: the Tourism Study". Merseyside County Council, Liverpool.

VAUGHAN, D.R. (1986b): "An Economic Impact Study of Tourist and Associated Arts Developments in Merseyside: The Overview Study". Merseyside County Council, Liverpool.

VAUGHAN D.R. (1986c): "Employment Multipliers: More than Advocacy?" Countryside Leisure and Jobs, CRRAG, Bristol, pp 76-87.

VAUGHAN, D.R. (1986d): "Estimating the Level of Tourism-Related Employment: An Assessment of Non-Survey Techniques". English Tourist Board, London.

VAUGHAN, D.R., DUFFIELD, B., LONG, J. and DOWERS, S. (1987): "Tourism and the Economy of Scotland". Scottish Tourist Board, Edinburgh.

WANHILL, S. (1980): "An Econometric Model of Wales". Bangor Occasional Papers in Economics, No. 18, University of Wales Press, Bangor.

WANHILL, S. (1983): "Measuring the Economic Impact of Tourism". Service Industries Journal.

WEISS, S. and GOODING, E. (1968): "Estimation of Differential Employment Multipliers in a Small Regional Economy". Land Economics No. 43.

WHEELLER, B. and RICHARDS G. (1974): "Tourism in Cardiganshire: An Economic Study". Wales Tourist Board, Cardiff.

WILSON, A. (1973): "The Assessment of Industrial Markets". Cassell and Co., London.

WILSON, A. and KIRKBY, M. (1975): "Mathematics for Geographers and Planners". Clarendon Press, Oxford.

WILSON, T. (1968): "The Regional Multiplier - A Critique". Oxford Economic Papers, pp 374-393.

WRIGHT, A. (1956): "The Genesis of Multiplier Theory". Oxford Economic Papers, Vol. 8, pp 181-193.

WURST, C. (1965): "Length of Stay Problem in Tourist Studies". Journal of Marketing, Vol. 19, pp 357-359.

YOUNG, G. (1973): "Tourism: Blessing or Blight?" Penguin, Harmondsworth.

ZALATAN, A. (1983): "The Economic Value of Physical Recreation in Canada". Physical Education Review, Vol. 6, No. 2, pp 118- 123.

ZINDER, H. (1969): "The Future of Tourism in the Eastern Caribbean". Zinder and Associates, Washington.